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LAST CHANCE FOR  
LIGHTHOUSE POINT

## **Comments: Disney Cruise Line’s Lighthouse Point Port Environmental Impact Assessment**

**Submitted by: The Stop Disney - Last Chance for Lighthouse Point Campaign**

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The Stop Disney - Last Chance for Lighthouse Point Campaign — which consists of reEarth, BREEF, Save the Bays, Waterkeepers Bahamas, Waterkeeper Alliance, and Friends of the Earth U.S., and has attracted more than 445,000 supporters — is pleased to submit this review of Disney’s Environmental Impact Assessment (EIA) for its proposed cruise ship port at Lighthouse Point on Eleuthera in The Bahamas.

As soon as the EIA was released to the public in March, we reached out to Bahamian and international experts to conduct independent analyses of Disney’s EIA. Many of their analyses can be found in the Appendix as part of these comments. We are also submitting the recordings of the two “extended public consultations” hosted by the Campaign as a follow up to the Department of Environmental Protection and Planning’s (DEPP) only public consultation on April 8th. In total, more than 160 concerned residents, experts, and stakeholders from Eleuthera, The Bahamas, and across the world attended the meetings. Links to the recordings can be found in the Appendix. In addition, more than 30,000 people have joined Friends of the Earth U.S. in submitting their comments on the EIA.

Disney says their team spent three years compiling the “most comprehensive Environmental Impact Assessments ever for a project in The Bahamas”. DEPP had it under **review for one year**. In contrast, the public was given just **two months** to review a 551-page document on a \$400 million project at a unique natural site surrounded by a proposed Marine Protected Area. Due to the truncated public review period, we did not have the time necessary to compile a complete list of necessary revisions to the EIA. The issues that we have identified and require supplemental studies are highlighted in yellow in the comments below. Please note that the materials in the Appendix should be considered part of our official comment, and require a response.

Disney is an iconic American company and one of the world’s most important storytellers about nature and the environment. They have stated repeatedly that they will not proceed with the current plans at Lighthouse Point unless it is “environmentally responsible”.

**[Dr. Mark Penning, Vice President of Animals, Science and Environment at the Walt Disney Company, further stated that “\[they\] have held \[them\]selves to the same standards of science and environmental review for this project that \[they\] would for any project anywhere in the world.”](#)** Yet our Campaign and numerous independent experts were disappointed to find that **the EIA is fundamentally flawed, filled with gaps, and falls far short of best practices in the industry.**

**Dinah Bear**, former General Counsel at the U.S. President’s Council on Environmental Quality (CEQ), stated in regard to Disney’s EIA, “This document suggests a fundamental misunderstanding of the purpose of EIA. The purpose is not to document the impacts of a

decision that has already been made and suggest a bit of mitigation. Rather, the highest purpose of EIA is to evaluate the environmental and related social and economic impacts of a proposed action and alternatives to inform decision making. As it stands, the document does not conform to international and U.S. standards for EIA.” The Campaign believes that it would be “environmentally irresponsible” to move forward on the basis of this review as it now stands.

Sadly many of the deficiencies in the EIA were avoidable. Our May 2, 2019 [EIA Scoping Outline Letter](#) and our July 23, 2020 [EIA Supplement Scoping Letter](#) to top Disney officials outlined key studies and analyses that needed to be included in a meaningful world-class EIA. Dr. Mark Penning, Vice President of Animals, Science, and Environment at the Walt Disney Company [replied to our 2019](#) letter and stated that the issues we outlined were already within the scope of their EIA. However, the majority are not included in the current draft of the document. We have reiterated these concerns below. Disney never responded to our 2020 letter and, despite multiple offers, did not meet with our experts about the scope of the EIA.

As a nation facing some of the most severe consequences from both climate change and the collapse of tourism due to Covid-19, The Bahamas deserves a full assessment of whether or not this project is a good deal for its people.

**As we have stated repeatedly, we stand ready to cooperate with Disney in preparing a comprehensive EIA that includes the necessary supplements listed below. These additions must be included to provide a sound basis for this important decision about the future of Lighthouse Point.**

### **Summary of Comments**

The major deficiencies in Disney’s EIA are as follows:

- The EIA relies on a still undisclosed economic study completed before COVID to make unsubstantiated claims about the economic benefits of the project for the people of Eleuthera and The Bahamas. There EIA needs to include data and analyses to show that this is a really “good deal” for all the stakeholders.
- The EIA does not address the social, economic, and environmental justice impacts of the proposed project.
- The EIA ignores climate change impacts and climate risk. It does not contain the necessary studies to outline the project’s contributions to climate change. It also does not contain the necessary studies to address risks to the project from sea level rise, storm surges, and increased coastal flooding associated with climate change.

- The EIA does not address the threat of Covid-19 or future pandemics. This is essential, especially considering the limited infrastructure and lack of a hospital on Eleuthera.
- The EIA does not mention that the waters surrounding Lighthouse Point have been officially proposed as a Marine Protected Area (MPA) as part of the Caribbean Challenge Initiative efforts to protect 20% of Bahamian marine resources by 2020.
- The EIA does not meaningfully consider alternatives, which is an explicit requirement in the Bahamian 2020 EIA Regulations. Disney continues to suggest that the only alternative was a much denser condo-marina project that was proposed for Lighthouse Point more than a decade ago. Disney does not mention that the project was opposed and failed. It does not consider the land-based sustainable alternative proposed by local groups.
- The EIA addresses the environmental impacts of the construction phase of the project, but provides little to no analysis of the long-term impacts of operation and up to 1 million visitors a year.
- The EIA focuses primarily on terrestrial ecosystems, but is much less comprehensive on the impact of the project on marine environments. It includes minimal surveys of the presence of marine species, but no analysis of impacts on:
  - migration patterns of bonefish, groupers, and snappers - all commercially-important species.
  - Marine mammals, whales, and dolphins.
- The mitigation measures outlined in the EIA are vague at best.
- Disney engaged in extensive outreach and community engagement on Eleuthera over the last two years (EIA 288-292). Yet Disney has refused repeatedly to engage with the Campaign's Bahamian partner groups. They also have not consulted with our technical experts, many of whom are leaders in their fields and have extensive experience in The Bahamas and at Lighthouse Point.

## Campaign Comments

### Inadequate Disclosure and Discussion of Economics

The EIA provides such limited economic information that it is impossible to verify the accuracy of Disney's claims that the port will provide economic benefits to the nearby communities, the island of Eleuthera, and The Bahamas. Thus, many Bahamians continue to question whether the cruise port is really a "good deal".

Disney has not released the 2018 Oxford Economics Study which supposedly substantiates their claims of economic benefits. To our knowledge, the only information that has been released is a very brief summary in the form of a powerpoint presentation which outlines takeaways, but does not provide the underlying analyses (see Appendix). **Disney needs to release the Oxford Economics Study so stakeholders can fully assess the validity of the economic benefits Disney has promised.**

Disney is investing up to \$400 million in the development at Lighthouse Point. Every bed aboard a Disney ship represents around \$237,000 in annual revenue. When multiplied by 3,500 passengers Disney can expect to take in revenues of \$830 million per ship, per year. The EIA states that the "project is conservatively expected to provide a \$805 million increase in Bahamian gross domestic product (GDP) and a \$357.5 million increase in Bahamian Government revenues" over a 25 year period. This amounts to an increase of only \$32.2 million in GDP and \$14.3 million increase in Bahamian Government revenues per year. **Disney needs to make clear exactly how this deal is fair to The Bahamas and the people of South Eleuthera.**

The EIA currently does not include information on expected increases in Gross National Income (GNI). The EIA only reports increases in Gross Domestic Product (GDP), which is essentially a useless measure. A significant, if not overwhelming, portion of this money could be going into the pockets of outsourced vendors from Florida or other nearby Disney associates, instead of into the pockets of Bahamians. As stated by Lawrence Pratt, a leading international expert in sustainable tourism economics, in his analysis of Disney's EIA, "GDP counts both costs and benefits as benefits (e.g. sales to tourists and disposing of tourists' waste), effectively 'double counting' the impact of development if further information is not provided. It is standard practice to detail direct, indirect and induced effects as well as estimated effects on tax revenues and value added in input-output analyses to shed additional light on the likely size of local net benefits and costs." He continued, "GDP is a measure of gross billing by the proponent, which is an accounting measure that has little relationship to Bahamian national accounts or in no way reflects the actual income effects in the country" (see Appendix).

Further, the EIA also provides no explanation as to how the reported GDP increase estimate was calculated. In fact, historic levels of onshore spending are considerably lower. As stated by L. Pratt (see Appendix) “To arrive at this gross sales number, the proponent is either:

- including all of its receipts from sales to guests, not just the portion that is territorial to The Bahamas
- using a level of guest spending much higher than observed in studies and reported by the industry
- considering a far greater guest level than that reported in the EIA itself
- claiming generous multiplier effects without explaining how this multiplier was estimated.
- or some combination of one or more of the above points.”

According to the Bahamian Minister of Tourism, Dionisio D'Aguilar, **75 percent of foreign visitors to the Bahamas are cruise passengers, but the cruise industry accounts for only 11 percent of overall tourist spending.** Traditional heads-in-beds tourists spend **20 times more** than cruise passengers, as has been publicly noted by the Minister of Tourism. Numerous economic studies substantiate the claim that stay-over tourism has far greater economic benefits than cruise tourism.

The point at the LHP site is a very popular attraction for stay-over tourists visiting the island in Governor’s Harbor or even as far up as Harbour Island. These tourists frequently drive the length of the island to visit Lighthouse Point because of its pristine natural beauty. These tourists constitute a vital portion of the southern settlement’s income as they stop for gas, refreshments, souvenirs, etc. **Disney’s EIA must consider studies to examine how development of the port will impact the likelihood of stay-over tourists, who are known to contribute more to the economy of The Bahamas, visiting the site and contributing to local businesses along the way. It must also outline project costs to local businesses.**

The EIA and the limited information we have received about the 2018 Oxford Economics study, do not address potential costs to local business. The EIA states that “the Developer will provide all citizens and residents of The Bahamas with full access to the property for non-commercial purposes.” This appears to exclude access to the area for independent local tour guides. Lighthouse Point is a major attraction for these businesses. At the April 8th DEPP public consultation at minute 01:10:40, the question of whether or not local bird and other environmental guides would be able to bring their own customers onto the site. Disney mentioned that they would hire Bahamians for their own shore excursions, but did not provide a clear answer as to whether or not local tour business would be able to operate independently at the site. As it stands, Disney has the liberty to determine the number of tour operators with which they will collaborate, if any, and there are currently no limits on the rate of commission that Disney can charge. **The EIA must include more specific information about their intentions for**

interacting with local business. It also must provide analyses of how their own operations will impact independent local businesses.

Furthermore, Disney announced a \$4 Billion dollar expansion with the addition of three new cruise ships. The Bahamas is critical to that objective. As it stands, Disney will pay no taxes on any kind of revenue, no real property taxes, and no import duties or tariffs for decades. Disney is at liberty to control the number of vendors allowed on site, as well as their location and merchandise. Disney has stated that they will hire as many as 150 Bahamians, but they have provided no guarantee. Taking all of these factors into account, Disney's EIA as it stands does not provide a sufficient analysis of how this is a good deal for The Bahamas. **The EIA must include additional studies that account for all of these factors, to show that The Bahamas will receive the economic benefits that Disney has promised.**

Disney has said that their proposed port is compatible with a Marine Protected Area, but has yet to demonstrate how this is the case. According to the [Economic Valuation of Ecosystem Services in Bahamian Marine Protected Areas conducted by BREEF, the Nature Conservancy, and the National Trust in 2017](#), the existing network of MPAs is worth \$6 billion per year in ecosystem services including crawfish habitat, shoreline protection, tourism and carbon storage. MPAs provide important sanctuaries to keep healthy populations of queen conch, grouper, spiny lobster, and other marine species that are commercially valuable. Fishing is the foundation of many Bahamians' livelihoods, and the industry is already under stress due to overfishing. Impediments to fisheries conservation efforts could have rippling economic effects. **The EIA must weigh the economic benefits of the cruise ship port against the benefits that the Lighthouse Point area would provide to The Bahamas as a Marine Protected Area.**

### **Consideration of Alternatives**

The EIA does not adequately consider alternative plans, which is an explicit requirement in the final draft of the 2020 EIA Regulations. Disney mentions that other sites were considered, including Egg Island. However, the EIA does not at all consider alternative developments at the selected site, as is standard practice for EIAs across the world and in the U.S., Disney's home country. Typically EIA's will consider multiple different construction scenarios, including a no-development scenario.

Disney continues to point to the higher impact marina project which was proposed more than ten years ago as the only other alternative, even though this plan was abandoned. Disney's EIA ignores the land-based, lower-impact, sustainable alternative that has been proposed by local groups. They do not at all consider [the low development, ecotourism plan which was put forth by the One Eleuthera Foundation and other successful Bahmian hotel operators](#), and subsequently

squashed by the Government. The EIA must consider the possibility of an even lower-scale, land-based, sustainable alternative.

Such an alternative concept was recently put forward by Chris Maxey, the founder of the Island School in Southern Eleuthera. Mr. Maxey recently wrote to Disney's CEO (See Appendix), Bob Chapek, asking him to consider cooperating with local organizations on a lower-impact, sustainable alternative that would better protect the environment and provide more jobs for Bahamians. Mr. Maxey did not receive a response.

James Lima, an international expert on sustainable development who has worked closely with local groups on Eleuthera, said at the April 15 extended public consultation (see Appendix): "we found that a plan centered around educational and ecotourism, stay-over-tourism, at a very small footprint of the site would generate 27 times greater economic benefit for The Bahamas than the proposed Disney plan."

Greg Miller, Executive Director, Center for Responsible Tourism, added in his comments: "Disney should be guided by global best destination selection and management practices, and reexamine alternative options including a more altered or degraded location, a land-based low impact option, and a no development option" (see Appendix).

Ben Simmons, a resident of Eleuthera and local business owner, added: "I own two small hotels on Eleuthera and I am a strong believer that small, low-impact development is key to a sustainable economy that employs more people and is better prepared to deal with economic shocks. South Eleuthera already has a cruise port at Princess Cay and actually has the highest number of visitors on the island, but none of the economic benefits have gone to the people who actually live there. Who's to say this is going to be any different? Disney needs to do better than what they are currently proposing."

Disney needs to conduct the analysis necessary to determine whether a lower-scale, alternative development option could better protect the environment and provide more jobs for South Eleutherans.



## **Inadequate Consideration of Climate Risks and Impacts**

The EIA claims that the “project is not expected to have a material impact on climate change”, but does not contain any studies or information to back up this assertion. Disney’s EIA for the Lighthouse Point project does not address climate risks - including storm surge and tidal flooding from expected sea level rise (see the independent technical review of the EIA by the Woods Hole Group in the Appendix). The EIA does not consider the value of the proposed Marine Protected Area (MPA) off of the Point as a “natural climate solution”. Disney also has yet to publish information about the carbon emissions associated with the project.

The minimal mentions of climate change in the document redirect to Disney’s overall 2030 Sustainability Goals. The goals of The Walt Disney Company at large to reach net zero emissions (which may also be inadequate) do not disqualify the need for responsible development by their cruise line at Lighthouse Point. The long-term climate change implications of the project require much more thorough analysis.

Nearly one year after Hurricane Dorian and at the start of another hurricane season, it is more crucial than ever that Disney seriously consider the impact of increasing storm frequency and intensity, as well as other consequences of climate change. As Dr. Adelle Thomas, a Bahamian human-environment geographer, stated, **“we cannot continue with a business as usual approach that has resulted in the devastation seen by Dorian, Irma and Joaquin.”**

Disney’s own 2009 Corporate Responsibility Report said that “current scientific conclusions indicate that urgent reductions in greenhouse gas emissions are required to avert accelerated climate change. Scarcity of natural resources and threats to ecosystems and biodiversity are serious environmental issues. **A successful response to these challenges demands fundamental changes in the way society, including businesses, use natural resources, and Disney is no exception.**” Still aware of the above-mentioned scarcity, Disney further recognized in 2019 that “strategic investments in natural climate solutions...protect natural resources and conserve habitats, as well as support local communities through economic development and employment.”

Disney should examine two main areas in its supplemental EIA with regard to climate change:

- 1.) The long-term contributions of the project to climate change and its impacts.

Disney has affirmed that the port is compatible with the company’s commitment to environmental stewardship and **“ensuring a world where wildlife thrives and nature is treasured and protected by: Saving wildlife. Inspiring action. Protecting the planet.”** However, Disney has yet to disclose how this will be accomplished at Lighthouse Point. To

properly address the environmental sustainability of the project, Disney must provide a thorough account of the cumulative impact of the port construction and operation. Disney must include in the EIA supplement a thorough assessment of the project's contributions to climate change, especially considering the particular vulnerability of The Bahamas to its impacts. This must include accounts of all emissions associated with the port's construction, operation, and decommissioning.

Cruise ships are well-known emitters of massive amounts of greenhouse gases. The emissions of one cruise ship in one day are equal to that of one million cars. Disney's new ships will burn LNG, which contains primarily methane, a potent greenhouse gas (GHG) that traps 86 times more heat in the atmosphere than the same amount of CO<sub>2</sub> over a 20-year time period. However, there is no mention in the EIA of the contributions of Disney's cruise ships to climate change. The EIA must examine the long-term impacts of emissions from the cruise ships that will pass through the port.

The proposed cruise port is an expansion of Disney's operations in The Bahamas, and will result in more ships, more passengers, and more pollution in Bahamian waters and coasts. Disney must address how this increase in operation will add to climate change impacts that have significant consequences for The Bahamas. For example, ocean acidification and warming caused by our changing climate have devastated Bahamian coral reefs and other marine life that hold significant economic value as food and tourist attractions. The EIA must examine the potential for its port to exacerbate this, and other problems associated with climate change.

Electricity at the port at Lighthouse Point will be produced onsite using solar power and generators with stored fuel. 30% of the site energy needs will be satisfied with renewable energy sources. This is nowhere near adequate in a new age of sustainable development. The EIA states that the feasibility of using a greater percentage of renewable energy is "being evaluated." This evaluation should have been completed before the release of the EIA.

Further, the EIA must examine whether the proposed project upholds or undermines the international commitments of the Government of The Bahamas (GoB). Most notably, the GoB enacted the National Policy for the Adaptation to Climate Change in 2005, committed to the Caribbean Challenge Initiative in 2013, and signed the Paris Agreement in 2015 in order to reduce emissions and protect the environment. The proposed project could damage the environment and aggravate climate change, meaning it also has the potential to compromise these commitments. Disney must provide a full account of how their proposed development and associated emissions will impact the ability of both the company and The Bahamas to meet these obligations. Further, Disney must assess the impact of the proposed development on the company's own goals to reduce emissions beyond 2020.

- 2.) The impacts of a changing climate and rising sea levels on the economics and long-term viability of the project.

[A 2018 study conducted by Climate Central scientists for the Inter-American Development Bank](#) recognizes The Bahamas as the most vulnerable nation in the Caribbean to sea level rise. In The Bahamas, 32% of land and 25% of the population are located in the most high risk areas, falling below 0.5 meters above the high tide line. [Moody's, a well-respected credit rating agency, identifies The Bahamas as among the top four countries forecast to be most affected economically by sea level rise, with damages from rising seas amounting to up to 15% of annual GDP.](#)

The anticipated physical and economic consequences of increasing storm frequency and intensity linked to climate change are also severe. Situated within warm Atlantic Ocean latitudes, The Bahamas is already particularly susceptible to hurricanes ([Shultz et al. 2020](#)). Recent projections published by the Caribbean Catastrophe Risk Insurance Facility suggest that with climate change and coastal agglomeration the costs of damages from extreme weather events could amount to losses of up to 9% of GDP annually by 2030 in the Caribbean ([Bresch & ECA working group, 2010](#)).

During a visit to The Bahamas after Dorian, [UN Secretary-General António Guterres said](#), "it's impossible not to be horrified by the level of destruction caused by Hurricane Dorian in the Bahamas. In the era of the climate crisis, natural disasters have become more frequent and devastating. It's time to change course and implement strong climate action now."

Coastal developments must fully consider the economics costs of damages associated with these issues. The impact of these issues on the project must be fully analysed in the EIA to assure that the project at Lighthouse Point is economically viable over the long-term. **Disney must conduct a thorough review of how these projected climate change impacts will affect the construction, operation, and economics of their proposed port, as well as the long-term viability of its infrastructure. To accomplish this, the EIA supplement must model sea level rise at Lighthouse Point. It must also assess and model intensifying hurricane conditions and their potential impacts on the proposed facilities and operations, taking into consideration potential hurricane-related damage to the surrounding natural environment.**

## **Impacts from Covid-19/Global Pandemics**

Since Disney's submission of the EIA, the world has faced an unprecedented global pandemic and economic shutdown. The Bahamas continues to suffer as the pandemic has severely curtailed transportation and the tourism industry on the islands, which accounts for 60% of the country's GDP. [In The Bahamas, economic losses from COVID-19 are predicted to be at \\$2.5 billion in GDP.](#)

Cruise ships were one of the most heavily impacted industries by the pandemic. Disney's own cruise ships reported hundreds of cases of Covid-19 and one fatality. Cruise ships are also linked to the spread of Covid-19 and to higher rates of infection in port employees and host island residents. [Cruise ship arrivals in countries like Mexico and Australia have been linked to much higher rates of infection, as there is high potential for the spread of disease between cruise ship passengers and port employees, as well as host nation residents.](#) A new cruise port at Lighthouse Point could make The Bahamas even more vulnerable to the spread of infectious diseases like COVID-19.

As you know, Eleuthera is a largely-rural, lightly-populated island with no hospitals, minimal medical resources, and limited infrastructure. The implications of a future pandemic at a cruise port at Lighthouse Point would likely be severe. The protection of facility employees and local residents against disease from thousands of visitors a week coming ashore at Lighthouse Point is crucial. While there is significant pressure to rush ahead with new developments as the Bahamian economy attempts to recover from COVID-19, it is crucial that the port is developed, responsibly and sustainably in the face of global pandemics of this kind.

Disney and the GoB must seriously consider the economic and public health dimensions of COVID-19 and other infectious diseases at Lighthouse Point. As such, **the EIA must include a comprehensive analysis of 1.) the impacts of COVID-19 on Disney's development, as well as the potential role of the Disney's ships visiting Lighthouse Point in the spread of infectious disease 2.) the capacity of South Eleuthera and its infrastructure to handle a public health crisis that may result from infectious diseases brought there by the proposed cruise port operations.**

## **Operational Impacts**

The EIA primarily assesses the environmental impacts of the construction of the cruise port, detailing how noise and waste pollution, physical disturbances, and other consequences will affect the area during this phase. However, there is little to no mention of the environmental impacts of 1 million visitors a year and long-term operation of the port. Long-term operational impacts are likely to be the most severe with a project of this size.

For example, there is no mention of the impacts of human foot traffic, sunscreen usage, energy generation, water consumption, water discharge, pesticide and other chemical usage, waste generation, and handling, etc. Potable water is to be obtained through desalination (reverse osmosis). This is a very energy intensive process, produces toxic wastewater and will likely have notable impacts. **The EIA must include analyses of the impact of increased foot traffic and its associated activities.**

A wastewater treatment plant will be constructed at the site. The EIA does not provide sufficient information about this process and its impacts. The EIA does not make clear if sewage will be treated to remove nutrients. As Dr. Thomas Goreau outlined in his comments (see Appendix), nutrient runoff poses the threat of harmful algae blooms, which cause mortality in reefs and other marine life. **The EIA must include 1) more specific information about the plan for wastewater treatment and 2) additional studies on the potential for harmful algae blooms or other environmental impacts from possible runoff.**

Food and some solid waste will be incinerated on site. This has known environmental impacts and releases harmful emissions into the air. The EIA states that the waste that is not incinerated will be returned to the ship for “appropriate disposal.” There is not clear indication as to what exactly this means. **The EIA must include more specific information about 1) how waste will be disposed and 2) the potential impacts of these disposal methods.**

The EIA does not address that there are two other cruise ports — Half Moon Cay, and Princess Cay — located within 11 miles of Lighthouse Point. The cumulative impacts of runoff, pollution, foot traffic, waste disposal, and other concerns from three ports within this proximity could be severe. **The EIA must include studies that analyze the impacts of aggregate port operations.**

## **Marine Protected Areas**

Disney must also examine the impacts of the port on the viability of Lighthouse Point as a Marine Protected Area. As we have previously addressed, 18,000 acres of ocean surrounding Lighthouse Point were officially proposed, due to their high biological value, as a MPA as part of The Bahamas' commitment to the Caribbean Challenge Initiative efforts to protect 20% of Bahamian marine resources by 2020. The designation of the area, which was put forth by the community and the Government, included extensive ecological studies and local consultation. The International Union for Conservation of Nature (IUCN) and the United Nations Environment Program have identified MPAs as effective climate change mitigation tools.

Disney has stated that their proposed port is compatible with a Marine Protected Area, but provides no proof that this is the case. **Disney needs to submit supplemental studies as part of its EIA to prove that this development is compatible with the protected status of a Marine Protected Area.**

## **Mitigation of Environmental Impacts**

The mitigation measures outlined in the EIA are extremely vague. The document provides no specific information about how mitigation will be accomplished. It does not include any details about how these measures will be implemented or analyses to determine their expected success rate. **A truly comprehensive EIA must include robust analysis of mitigation efforts in addition to just a list of the measures.**

Disney stated at the April 8th public consultation hosted by DEPP that this information is in the Environmental Management Plan (EMP). This document is not available to the public at this time. The public needs the opportunity to review and comment on both the EIA and the EMP before a decision is made by Disney and the Government. **Disney needs to release the EMP to the public and provide an additional public comment period for both the EIA and EMP.**

## **Corals**

The EIA's review of coral reefs is completely contradictory. It states that there are zero coral reefs in the project footprint. This completely discounts the fact that construction, operation and human foot traffic can have extensive impacts in surrounding habitats outside of the actual footprint. They also completely contradict this claim by then stating that they will use transplantation to mitigate damage to corals in the footprint.

The EIA provides a baseline survey of corals at the site and even mentions potential damages during the construction phase, but does not at all mention the impact of 20,000 visitors a week on the corals at the site.

We have consulted leading experts in Bahamian coral reef environments. Dr. Thomas Goreau, the President of the Global Coral Reef Alliance and Chief Scientist at Blue Regeneration, stated in his comments on the EIA: “the EIA describes the health of the coral reefs as only “fair”... but the survey omitted the areas of highest coral cover on the east side of Lighthouse Point. Because of their exceptional water quality and lack of human disturbance, these reefs are likely among the most pristine reefs left in the Bahamas” (see Appendix).

The corals at the site “are the only coral reefs in Eleuthera that are entirely up-current from sources of land-based pollution, and therefore of the highest national conservation importance” (see Appendix). An incredibly rare feature of the Lighthouse Point site is that “all three of the severely endangered *Acropora* elkhorn and staghorn coral species are found together in very shallow nearshore waters.” These species are very vulnerable and slight disturbances could have detrimental impacts. Potential disturbances from Disney’s proposed activities at LHP include:

- nutrient discharge to coastal waters from sewage
- turbidity caused by boat docking
- erosion of landfill beaches onto the reef

The EIA does not address the impacts of imported sand on coral reefs. As is outlined in Dr. Goreau’s comments (see Appendix), artificial beaches require imported sand to be dumped on the shoreline. Storm waves wash away this unstable sand, potentially burying offshore reefs. Given the increasing threat of storms as a result of climate change, this process is inevitable. **The EIA must include studies to analyze the impact of sand run from the artificial beaches.**

The EIA does not address the threat to corals posed by warm water expelled from the cruise ships at dock. As Dr. Goreau states, “Bahamian corals have large scale mortality from repeated high temperature bleaching events, and are on the edge of survival from global warming” (see Appendix). The EIA states that cruise ships at berth “will cycle approximately 5,000 cubic meters/hour of water through its internal system for cooling of chillers and other ship operations. The water is not mixed with any other systems or waste streams but will return the water approximately 5 degrees Fahrenheit (°F) warmer from intake to discharge.” Warmer water released into the ocean will add additional stress to corals located at the site and downstream. **The EIA must include analyses of the impacts of warm water runoff on corals and the associated threat of bleaching.**

**Disney needs to submit a supplemented EIA to 1) analyze the impact of up to four ships a week and 1 million visitors a year on the coral reef environments in the area 2) layout the mitigation**

measures that will be implemented to protect corals from the aforementioned risks and 3) prove that these measures will be effective.

### **Bonefish/Commercial Fisheries**

We have consulted leading experts in bonefish ecology in the waters of Eleuthera and at Lighthouse Point. These experts have identified major holes in Disney's analysis of the impacts of their project on economically important bonefish populations.

The EIA states that "the extent to which recreationally important bonefish species are utilizing the LHP marine habitats is not well known." According to Dr. Philipp, PhD, a scientific expert on bonefish, it is well-documented that LHP is a crucial habitat for bonefish migration. Lighthouse Point is located just a few miles from vital spawning sites for bonefish, grouper, and other commercially important species that may migrate over 100 miles to reach spawning sites. The southern tip of Eleuthera is likely an important landmark in the migration route. The proximity of the shoreline to the deepwater drop-off, and the existence of major gyre currents in the area, make the area ideal for the development of juvenile bonefish. Shoreline disruptions to this area, such as the construction of a pier and increased boat and foot traffic, will cause fish to abort this migration pathway, as has been observed at Castaway Cay. This would reduce reproductive success and recruitment. It is likely to cause significant damage to the bonefishing industry on Eleuthera and the economies of the Family Islands at large.

Disney's EIA does not include adequate pre-construction assessments of bonefish or other marine populations in the area or any post-construction plans to monitor the response of the fishery to the proposed development. Disney states that no bonefish were sighted at Lighthouse Point during their field surveys. This is likely due to the fact that bonefish pass through the shoreline of LHP on a seasonal basis, and only long-term studies can adequately assess their movements. Disney's study amounted to less than three days in duration.

Disney needs to submit supplemental studies as part of its EIA that 1) provide adequate pre-construction surveys of the bonefish, grouper, marine mammal, and other marine populations in the area, as well as nearby spawning aggregations 2) analyze how construction and operation will impact the survival, feeding, reproduction, and migration of these species 3) outline measures to mitigate impacts to these populations during and after construction.



## **LEED Certification**

LEED Certification is the gold standard for sustainable construction. Disney's EIA does not even mention the possibility of constructing all buildings to be LEED certified.

Disney's contractors are not listed even in the top 100 environmental consulting firms. If Disney is really planning to develop a forward-thinking, sustainable tourism operation, they should be consulting only the best of the best. **Disney's EIA must consider the possibility and examine the benefits of LEED certification for all on-site facilities.**

## **Lack of Consideration of Environmental/Social Justice**

Today more than ever, Disney should demonstrate sensitivity to systemic injustices and willingness to take action to address environmental and social justice issues. At a minimum, Disney should understand how its project could add to environmental, social, and economic injustices that are present in South Eleuthera. As it stands, the EIA does not even mention environmental or social justice.

Corporate inequality has recently come to the forefront of the public discourse across the world. In 2019, The Walt Disney Company's total revenue was reported at 65.39 billion U.S. dollars. In contrast, the communities of South Eleuthera are in critical need of economic growth, experiencing unemployment rates as high as 70-80%. Lighthouse Point needs to be developed in a way that is both sustainable and equitable. The EIA should consider whether in fact the proposed development for Lighthouse Point is, in its current state, a fair deal for The Bahamas and South Eleuthera.

As outlined in the above economics section, with the information that Disney has publicly released, it is still unclear how the economic benefits to the communities of South Eleuthera will be even comparable to the company's revenue from the port. In order to proceed responsibly and fairly, Disney must be explicit about how this deal is fair to The Bahamas and the people of South Eleuthera.

Further, environmental injustice is pervasive in The Bahamas. Environmental injustice specifies the reality that the most adverse impacts of environmental crises, pollution, and climate change are experienced by communities and countries of color. Hop Hopkins, the director of strategic partnerships for the Sierra Club, explained it clearly when he said: "you can't have climate change without sacrifice zones, and you can't have sacrifice zones without disposable people." As stated above, The Bahamas has been identified as the most vulnerable nation in the Caribbean, and one of the most vulnerable nation's in the world, to the impacts of climate change. This means that the Bahamian population is on track to be "disposed of" first. Disney

must analyze their contributions to climate change not just to account for their impact on the environment, but also to account for the potential perpetuation of this injustice.

Disney has chosen to develop their cruise port in one of the most economically depressed areas of The Bahamas. Disney is a major international corporation whose annual income is over five times the annual GDP of The Bahamas as a whole. The EIA must examine the economic benefits of the project to ensure an equitable deal. The EIA must include a full analysis of the economic equity of the project and any potential social justice ramifications. This must include analysis of 1) the contributions, for better or worse, of cruise port and cruise ship operations to environmental injustice and system inequality in The Bahamas 2) the comparative economic benefits of the cruise port for the company and the impoverished communities of South Eleuthera.

## **Overview of Still Outstanding Questions**

There are dozens of unanswered questions about the impacts of the proposed cruise port. Due to the time constraints, we have not been able to assemble a more comprehensive list; this list constitute just some of the issues that Disney and DEPP must still address:

1. When will Disney release the 2018 Oxford Economics Study, which contains the analyses that support the purported economic benefits of the project? Will this study be updated?
2. What are the expected increases in Gross National Income (GNI) from the proposed port?
3. Why didn't Disney release a draft Environmental Management Plan along with its EIA for its proposed project at Lighthouse Point?
4. The EIA primarily assesses the environmental impacts of the construction of the cruise port, but what are the environmental impacts of 1 million visitors a year and long-term operation of the port?
5. How will sunscreen usage from 1 million visitors a year impact the reefs, marine life, and coastal habitats at Lighthouse Point? How will Disney mitigate these impacts?
6. What are the projected environmental impacts of increased human foot traffic at lighthouse point? How will Disney mitigate these impacts?
7. What are the long-term environmental impacts of energy generation at the site?
8. What are the long-term environmental impacts of water discharge and waste generation and handling at the site?
9. What are the long-term environmental impacts of desalination (and the toxic wastewater produced by this process) at the site?
10. What are the long-term environmental impacts of waste incineration at the site? The EIA states that the waste that is not incinerated will be returned to the ship for "appropriate disposal." There is not clear indication as to what exactly this means. What is Disney's "appropriate disposal" method?
11. What is the level of emissions associated with the Disney cruise ships that will pass through the port? How will this contribute to climate change long-term?
12. Only 30% of the site energy needs will be satisfied with renewable energy sources. This is nowhere near adequate in a new age of sustainable development. Why has Disney only committed to 30% renewable energy sources? The EIA states that the feasibility of using a greater percentage of renewable energy is "being evaluated." This evaluation should have been completed before the release of the EIA and must be completed before a final decision is made on the project.
13. What are the projected increases in sea level at the site over the next 50 years? How will sea level rise impact the proposed port and its infrastructure long-term? How will this impact the long-term economic viability of the project? How will Disney mitigate these impacts?

14. What are the projected increases in storm frequency and intensity as a result of climate change in the area? How will increasing storm frequency and intensity impact the proposed port and its infrastructure long-term? How will this impact the long-term economic viability of the project? How will Disney mitigate these impacts?
15. Exactly how is this project compatible with the area's status as a proposed Marine Protected Area?
16. How will the port be impacted by Covid-19 or other future pandemics? Will Disney mitigate the threat of Covid-19 and future pandemics? How will Disney protect their passengers, employees, and residents of Eleuthera from this threat?
17. Disney has stated that they intend to have a seabed lease of an as-yet-undetermined area for \$1,000/acre/year (P. 6 HOA). Does Disney intend to restrict access to boat traffic to marine areas and beaches as they do at Castaway Cay?
18. How will Disney mitigate impacts to threatened Piping Plover populations?
19. How can Disney claim that the construction activities will improve the habitat for the Kirtland's warbler?
20. How will Disney address and mitigate impacts to other endangered and threatened species, such as endangered sea turtles that reportedly nest on Lighthouse Point beach?

### **Proposed Timeline for the Environmental Review**

Pursuant to these concerns, we would suggest the following recommended timeline for the further review of the EIA at Lighthouse Point:

1. Disney will prepare and publish a draft scope of work for supplementing its current EIA in order to address its numerous deficiencies. The supplement will include the Environmental Management Plan.
2. Disney and DEPP should conduct a public consultation on the final scope of work.
3. Disney will revise the draft EIA to 1) address public comments and input from scientists and experts and 2) supplement the EIA with additional studies required to adequately address issues raised in the public consultation period.
4. Publication of Disney's supplemental draft EIA for public review.
5. A secondary public consultation period.
6. Resubmission of the EIA and its consideration.
7. Decision on the Environmental Authorisation by the Department.

## **Conclusion**

This project constitutes a major turning point for Eleuthera, The Bahamas, and the cruise industry. The aforementioned revisions to the EIA are critical to ensuring that Disney and the Government make a well-informed decision about the future of Lighthouse Point. We stand ready and eager to assist with these necessary supplements. Please reach out to us at [lastchanceforlighthousepoint@gmail.com](mailto:lastchanceforlighthousepoint@gmail.com) if you have any questions, and we look forward to your response.

## Appendix

### Extended Public Consultations

April 15, 2021: Extended Public Consultation: Economics, Sustainability, Alternatives. [Link](#).

- Expert Speakers:
  - Dinah Bear, former General Counsel, U.S. President’s Council on Environmental Quality (CEQ)
  - Gregory Miller, Executive Director, Center for Responsible Travel (CREST)

April 22, 2021: Extended Public Consultation: Oceans, Marine Habitats, Climate Change. [Link](#).

- Expert Speakers:
  - Dr. Thomas Goreau, President of the Global Coral Reef Alliance; Chief Scientist, Blue Regeneration
  - Jacob Scherr, Former Director of Global Strategy and Advocacy, Natural Resources Defense Council

### Expert Comments

Comments submitted by:

Lawrence Pratt, Professor, Professor in Sustainable Development, INCAE Business School

- 1. The document presents a worrying lack of information economic impacts (both positive and negative) for the local economy and community.**
  - a. The EIA states a very large number claiming it as a contribution to GDP, and no other economic information is found. This is problematic and leads to gross misunderstanding of the real benefits and costs to the country and island. GDP counts both costs and benefits as benefits (e.g. sales to tourists and disposing of tourists’ waste), effectively ‘double counting’ the impact of development if further information is not provided. It is standard practice to detail direct, indirect and induced effects as well as estimated effects on tax revenues and value added in input-output analyses to shed additional light on the likely size of local net benefits and costs.
  - b. Claiming benefits in express economic and monetary terms without expressing the related costs in similar terms is highly misleading to readers and decision-makers.
  - c. GDP is a measure of gross billing by the proponent, which is an accounting measure that has little relationship to Bahamian national accounts or in no way

reflects the actual income effects in the country. This number greatly overstates economic impact of Disney's sales in the Bahamas as there is no reason to believe the actual sales, let alone the proceeds will remain in the country and it is unclear in the analysis presented. Based on analysis of other cruise ship tourism expenditures in the Caribbean, most visitor purchases are likely to take place on the ship or in Disney businesses on shore. As a result, a more correct gross number should be the incremental effect on Gross National Income (or Product) which measures the economic activity of Bahamian nationals wherever they reside and Bahamian businesses. This number too will likely overstate economic impact, but is at least a more defensible starting point.

- d.** Given that GDP is the only economic number presented, there is no explanation as to how the GDP number was calculated. Historic levels of spending shoreside are considerably lower. To arrive at this gross sales number, the proponent is either
  - i.** including all of its receipts from sales to guests, not just the portion that is territorial to The Bahamas
  - ii.** using a level of guest spending much higher than observed in studies and reported by the industry
  - iii.** considering a far greater guest level than that reported in the EIA itself
  - iv.** claiming generous multiplier effects without explaining how this multiplier was estimated.
  - v.** or some combination of one or more of the above points.
  - vi.** There is no information as to what cost to the country (national and island) this purported economic benefit is to be derived. Costs that need to be considered include: increase infrastructure spending (which, of course, also contribute positively to GDP estimates, but not necessarily to the wellbeing of Bahamians), costs of air pollution (from additional electrical generating capacity), tax benefits and concessions, loss of use of space by residents, among others.
- 2.** Lack of consideration of use of the affected area over time.
  - a.** The study is conducted for the construction phase, but makes little mention of the projected years of operations, and does not appear to consider the effect of high levels of visitation on critical and sensitive resources. While it may be conceivable that the construction phase has relatively small impact, it is difficult to imagine how the proposed level of visitation could have NO significant impact on sensitive environmental resources as well as cultural resources from hundreds of thousands of visitor days per year.
  - b.** Cumulative impacts are not considered – which appears to be a very critical oversight given the high levels of expected visitation and the long projected life of the project.

- c.** There is little to no analysis of impact variables from visitation, including the water discharges from hundreds of thousands of visitor days per year, air emissions from additional electrical production (or the sources of this energy and their local and climate change impact) and solid waste management over time.
  - d.** There is no discussion of costs associated with protection, maintenance, recovery or post-project restoration of affected areas. Establishing clear contingent costs and responsibilities for ongoing costs and closure costs is standard practice in most countries when dealing with projects with this level of impact.
- 3. Comparison basis best practices in EIAs require examining the proposed project versus some comparative scenario. The study does not clearly state what comparative scenario it is considering. If it is versus a “no-development scenario” it should be stated explicitly and present data to document that baseline. If it is versus some other scenario, it should be identified and an appropriate baseline established.
- 4. No consideration of social issues. There will be significant direct and indirect impacts to the local community, both positive and negative, including environmental health, access to natural and cultural resources, as well as changes to traditional employment. While this may not be explicitly required in EIAs in The Bahamas, it is a very noticeable absence in the overall picture put forth in the EIA.



April 22, 2021

Job No. 2021-0070

Marc Yaggi, President  
Waterkeeper Alliance  
180 Maiden Ln #603  
New York, NY 10038

## **Review of Lighthouse Point Environmental Impact Assessment**

Dear Mr. Yaggi:

Woods Hole Group reviewed the Environmental Impact Assessment – Lighthouse Point, Eleuthera, The Bahamas (the EIA) prepared March 2021 for DCL Island Development, Ltd. Our review of the EIA for the proposed development of a cruise port and entertainment destination at Lighthouse Point (the Project) focused on coastal processes and engineering, coastal hazards related to climate change, water quality, and project-related greenhouse gas emissions modeling. This letter summarizes Woods Hole Group’s comments on the EIA with respect to these subject areas. These comments were developed based on our experience in these subject areas, professional judgement, knowledge of the state of the practice, and expectations for the development of a complete environmental impact assessment.

Woods Hole Group is an international environmental services and products organization headquartered in Massachusetts, and with USA offices in Delaware, Maryland, and Texas. Woods Hole Group offers a range of Coastal, Ecological, and Oceanographic consulting services, along with products for collecting ocean measurements, ocean forecasting, tracking wildlife with satellite communications, and vessel monitoring systems for fisheries management. Woods Hole Group’s Environment & Climate Business Unit provides consulting expertise in coastal science, modeling, engineering, and planning, and regularly develops state and federal environmental impact statements for projects in the coastal zone. Our team is comprised of leading experts in coastal processes, sea level rise and storm surge modeling, resilient design and nature-based solutions, water quality modeling, and greenhouse gas assessment. We have deep experience in the engineering design of coastal infrastructure, dredging and beneficial reuse, beach and dune renourishment, as well as in environmental monitoring and sampling, and seafloor characterization.

Woods Hole Group’s review of the Lighthouse Point EIA identified the need for additional information, analysis and/or clarification with regard to coastal processes, sea level rise, storm surge, resilient design, water quality and greenhouse gas emissions. As detailed below, it is our view that the impact assessments for these subject areas are not sufficiently detailed or site-specific. Sound decision making for a major development project such as the one proposed for Lighthouse Point should be based on a complete and robust assessment of project alternative impacts.



## Coastal Processes

The EIA's review of existing coastal processes states "Baseline information is founded mostly on historical aerial photographs and verbal conversations with local residents familiar with the area." A **more comprehensive study of littoral transport and shoreline evolution** would typically be performed to inform existing conditions and the evaluation of proposed shoreline enhancement/management alternatives.

The proposed beach area enhancements include "Coastal stabilization structures...limited to upland areas only above the mean high water (MHW) line to contain the beach areas and minimize erosion." Further clarification on the need for these structures should be provided as it is stated "All these areas are relatively stable sand beach areas that naturally hold and accrete sand." The use of rock groin structures poses additional impacts in loss of beach habitat. A comprehensive study of coastal processes should be undertaken to inform the need for coastal stabilization structures above MHW in areas of beach expansion. Estimates of **longshore sediment transport rates and beach change with and without the proposed structures** would help determine the need for and potential influences to adjacent shorelines.

The location of the two bottom-mounted acoustic Doppler current profiler (ADCP) instruments is needed to better understand/interpret the wave and current data presented in the EIA.

In presenting impacts to beach enhancement areas, the EIA states "The expansion of beaches could have secondary impacts on some nearshore hardbottom, corals and submerged aquatic vegetation if subsequent shoreline erosion takes place." A **cross-shore sediment transport model** or related analysis would typically be conducted to assess the footprint and thickness of sediment transported from the beach to the nearshore zone during storm conditions. This is needed to better quantify potential secondary impacts of beach fill spreading on nearshore hardbottom, corals and submerged aquatic vegetation habitats.

## Sea Level Rise, Storm Surge and Climate Resilient Design

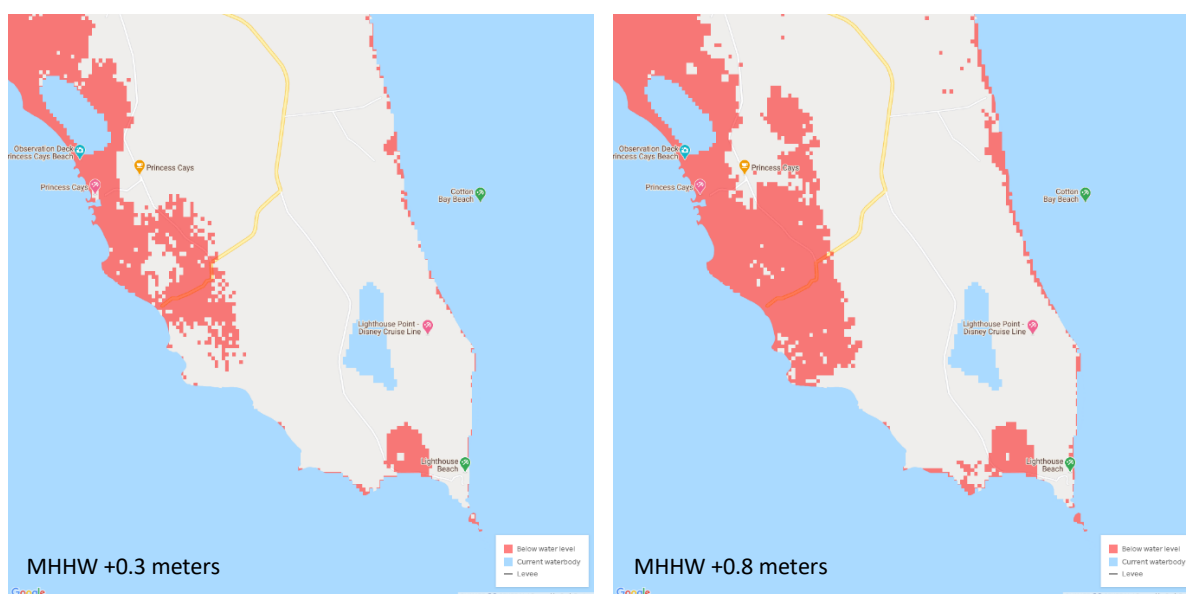
It is appropriate to assess the impacts of climate-related hazards over the design life of the project. Increasingly, states are requiring these types of assessments in environmental review for projects, and the Council on Environmental Quality recently re-released "2016 Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews" signaling broader commitment to incorporating these impacts into project decision-making.

Since the project has a stated design life of 50 years, the planning horizon for assessment should be approximately 2070 (2080 if construction is anticipated through 2030). The EIA uses a sea level rise projection of 1.0 foot relative to 2017 levels over the 50-year design life of the Project. Although this projection aligns with the projections presented in the 2014 Bahamas Second National Communication to the UNFCCC, it is not consistent with the current state of the practice in sea level rise planning.

Current best practice is to develop **local sea level rise projections using the "K14" (Kopp et al., 2014) approach which provides conditional probability distributions for different greenhouse gas emissions trajectories** and enables integration of these probabilistic projection into different scenarios to support asset planning and decision-making. This is the approach applied in the Fourth National Climate Assessment (Sweet et al., 2017) for the United States, adopted by multiple states for climate planning (including Massachusetts, California and New Jersey), and also used by Climate Central to develop projections for the Caribbean (Strauss and Kulp, 2018).



For example, the Climate Central probabilistic sea-level projections for Settlement Point, Bahamas are 0.28 to 0.32 meters above the baseline (year 2000 mean sea level) for the range of 2050 emission scenarios and 0.54 to 0.83 meters above the baseline for the range of 2100 emission scenarios. Thus, the 1.0 foot relative to 2017 used in the EIA is likely on the low end of possible sea level rise projections over the stated design life even when not accounting for contributions from ice sheet melt. The EIA should **present the range of potential sea level rise scenarios over the project design life overlaid with the development plan** in order to visualize the potential impacts. For instance, the following figures show areas of inundation 0.3 meters and 0.8 meters above the present local mean higher high water (MHHW). Review of these maps suggests that the proposed South Family Beach area south of Shad Pond and White Pond is particularly vulnerable to future tidal inundation over the stated life of the development.



For regional context, the **Southeast Florida Regional Climate Change Compact** (the Compact) released updated **Unified Sea Level Rise Projections** in 2019. The Compact states that “by 2070, sea level is projected to rise 21 to 54 inches above 2000 mean sea level” (MSL) and recommends that **projects with a planning horizon up to 2070 plan for sea level rise between the IPCC Median and NOAA Intermediate High scenarios (21 to 40 inches or ~0.5 to ~1.0 meter above 2000 MSL).**

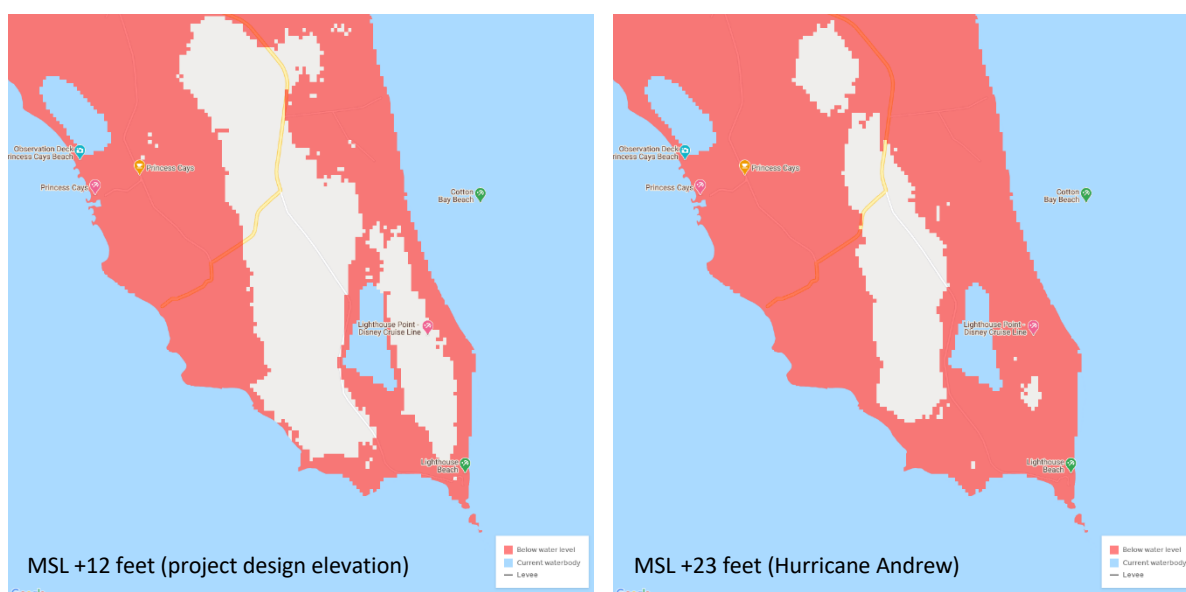
As noted in the EIA, storm surge is a significant vulnerability for Lighthouse Point, which experiences hurricane-related impacts once every 2.85 years and a direct hit once every 9.57 years, on average. The quantitative review of recent storm events in the EIA does not include Hurricane Dorian and its impacts on Eleuthera. Hurricane Dorian is noted as having a major impact in the Bahamas, but storm surge is not provided for comparison to other events. This would provide an additional (and recent) historical account of the potential flood risk at Lighthouse Point to better inform design criteria, siting of critical infrastructure, fuel and chemical storage areas.

A **map of potential storm surge with projected sea level rise over the 50-year design life of the project** should be included in the EIA. Potential sources of probabilistic extreme storm water levels for the area include the recent **US Army Corps of Engineers South Atlantic Coastal Study** or **FEMA’s South Florida Study**. Project elements overlaid on this map would help to determine the need for a more detailed vulnerability assessment.



The EIA states that the Project will be designed to “withstand any impacts due to climate change” but specifies only that structures will be elevated at or above elevation 12 ft MSL. According to the project site tidal datums reported in the EIA, 12 ft MSL correlates to approximately 10.5 ft above MHHW. This vulnerable area should be overlaid with project development plans to determine the vulnerability of project elements, and the return period of such a storm event should be stated in order to assess risk. Initial mapping suggests that, **contrary to the EIA’s statement regarding locating development above vulnerable areas, project related development is proposed within this vulnerable area at or below 12 ft MSL**, as shown below.

The stated design flood elevation of 12 ft MSL is also lower than stated historical storm surge levels. A complete assessment of storm surge vulnerability would include, at a minimum, a map of the inundation from the surge associated with the storm of record or the results of NOAA Sea, Lake and Overland Surges from Hurricanes (SLOSH) model results for the area. **Based on the storm surge reported in the EIA from Hurricane Andrew (1992), a 23 ft storm surge at Lighthouse Point would overwhelm the project area** as shown below. Careful consideration of storm-related vulnerabilities is critical to making planning and design decisions in areas that are exposed to hurricanes.



Since there is present risk of flooding and damage, which will be accentuated in the future with climate change, the impacts due to climate change should be estimated for the stated design flood elevation for the Project. We recommend **appropriate design flood elevations for roadways, buildings and infrastructure be developed based on a review of the storm of record as well as an assessment of regional sea level rise, probabilistic extreme storm water levels, and extreme wave conditions**. It was noted that extreme wave conditions were not quantified in the EIA. A review or study of expected extreme wave conditions is needed to ensure resiliency measures and structures will be designed to withstand wave forcing (in addition to wind and storm surge levels).



## Water Quality

For the proposed Reverse Osmosis (RO) water treatment facility, the EIA states “Brine that is a by-product of the RO system will be discharged through groundwater injection or offshore, pending final Project design.” Depending on the method selected for discharge, there will be impacts to groundwater resources and/or nearshore water quality. The EIA should clarify these potential impacts and, pending the selected design, the **zone of influence or mixing zone should be determined in the receiving water** to quantify the impacts and the potential need for mitigation measures, such as diffusers and/or locating the discharge to minimize resource impacts.

## Greenhouse Gas Emissions

The EIA states that the Project will not have a “material impact” on climate change and estimates Project related greenhouse gas emissions at 3,100 metric tons CO<sub>2</sub> per year, but there is no detail provided to substantiate this estimate or put it into context to evaluate the materiality of the impact. It is unclear what emissions are included in this figure.

Standard guidance in many states requires project proponents to calculate the greenhouse gas emissions related to project operation (and in some cases from construction). The types of emissions typically quantified fall into two categories – Scope 1 and Scope 2. Scope 1 emissions are direct emissions that occur on site from sources that are owned or operated by the organization (e.g. fuel combustion for heating, from company owned vehicles, or gas-powered landscaping equipment). Scope 2 emissions are indirect emissions that are associated with the use of electricity or steam generated off-site.

Scope 3 emissions include those emissions not in Scope 1 or 2, not under the direct control of the organization but related to its operation (e.g. employee commuting, supply chain, visitor trips, solid waste management). Although Scope 3 emissions are generally not required in EIA greenhouse gas assessments, they can represent a large portion of overall project life cycle emissions depending on the nature of the project. At a minimum, the **EIA should define the boundary of the emissions calculation, detail the assumptions used in the calculation of Scope 1 and 2 emissions, and address (at least qualitatively) Scope 3 and construction-related emissions.**

The EIA states that the Project will reduce carbon emissions by incorporating sustainable design, building, and management practices. Aside from a commitment to 30% renewable energy, no project specific sustainability initiatives or certifications are noted. More **detail on the Project’s sustainability commitments** should be provided. For instance, design and management choices may impact energy use, water use, material consumption and/or waste generation, and ultimately Project-related emissions.



## Summary

In summary, based on the review of those EIA elements that align with Woods Hole Group's technical expertise and experience preparing similar environmental documents for state and federal applications in the United States, we conclude that more detailed and site-specific data and analyses are required to complete this EIA. Without this additional information, it is not possible to evaluate or substantiate the claims the proponent has made in the document as submitted March 2021. Woods Hole Group would welcome the opportunity to discuss these technical recommendations with the proponent.

Respectfully submitted,

Matthew Shultz, P.E.  
Senior Coastal Engineer

Joseph Famely  
Senior Environmental Scientist



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Center for Responsible Travel

## Center for Responsible Travel *Transforming the Way the World Travels*

[www.responsibletravel.org](http://www.responsibletravel.org)

April 15, 2021

### **Independent Review of the draft Environmental Impact Assessment (EIA) on Lighthouse Point, Bahamas**

At the request of the *Last Chance for Lighthouse Point* campaign, the Center for Responsible Travel (CREST) was asked to undertake an independent review of the referenced draft EIA for Lighthouse Point (LHP), Eleuthera Island, Bahamas. CREST has considerable technical and economic analysis experience related to the cruise industry globally, with considerable cruise tourism expertise and publications in the greater Caribbean and Bahamas ([CREST](http://www.responsibletravel.org)).

CREST has made a critical analysis of the draft EIA's adequacy regarding sustainable tourism, destination stewardship, climate change, and economic benefits of the project. The draft EIA outlines several positive and innovative construction measures for the docking facilities and the DCL cruise ships themselves are some of the most efficient operating in the Caribbean. However, we find that the draft EIA is flawed, does not meet international standards for sustainable tourism and destination stewardship<sup>1</sup> and is inconsistent with Disney's global sustainability brand. Tourism, when done right, provides many benefits for destination communities, businesses, and travelers. However, we need to use this COVID "tourism reset" opportunity to take a hard look at past unsustainable practices from the cruise industry in the Caribbean and consider how to build back better through a stewardship approach.

The draft EIA makes frequent mention of "best management practices" or BMPs that will be outlined in the Environmental Management Plan (EMP), but no such draft EMP is available to the public. Without an EMP, it is impossible to assess Disney Cruise Line's (DCL) proposed mitigation plans or determine if sustainable tourism, biodiversity, and cultural resources BMPs are even being considered. The EMP is essential and must include rigorous BMPs that meet destination stewardship criteria at the highest standard to address visitor distribution, coastal/reef protection, wildlife monitoring, renewable energy, overfishing, water and air pollution, and waste management.

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<sup>1</sup> Destination stewardship is defined by the Global Sustainable Tourism Council ([www.gstcouncil.org/](http://www.gstcouncil.org/)) as "a process by which local communities, government agencies, NGOs, and the tourism industry take a multi-stakeholder approach to maintaining the cultural, environmental, economic, and aesthetic integrity of their country, region, or town." For CREST it is all about ensuring that the destination retains and enhances the distinctive attributes that make it attractive to beneficial tourism. This means protecting the very qualities that make a place like Eleuthera first and foremost a wonderful place to live, with the added benefit of being a wonderful place to visit.



Keeping in mind this critical gap in knowledge, CREST is still able to provide the following assessment for consideration.

### **Disney Commitment to Sustainability**

The Disney Company's 2030 sustainability goals outline DCL objectives that are more in line with a "building back better" sustainability approach. Overall, Disney Cruise Line's commitment to sustainability and leadership has earned it the highest rating from the Friends of the Earth annual cruise ship report card (though DCL dropped from an A- to a B- in 2020 due to their handling of the LHP project in question). Disney remains the highest rated cruise ship company, but is not in great company as only 2 of 18 cruise ship companies (Disney and Silversea) earn a rating higher than a "D." <sup>2</sup>

"The Walt Disney Company is committed to protecting the planet and delivering a positive environmental legacy for future generations as it operates and grows its business. WDI is dedicated to leveraging creativity, innovation, and operational excellence to being good stewards of the environment, and to inspiring its employees, guests, and business associates to protect the planet it shares, and the company's commitment is represented in this Project. <sup>3</sup> We approach new projects with a long-term strategic vision that involves partnering with government leaders, conservation experts, local communities, NGOs, and other stakeholders. Our intent is to approach the Lighthouse Point project with the same level of environmental stewardship and sensitivity we bring to other Disney projects around the world."<sup>4</sup>

Up to now, DCL has had a generally good record of operations in the Caribbean. That said, virtually all proposed tourist activities outlined in the draft EIA represent unsustainable mass tourism options that lack innovation and are more consistent with an amusement park than a future-thinking, sustainable tourism destination model. The draft EIA estimates that between 624,000 and 1,040,000 annual visitors will descend on the 154 acres of developed land and coastline, with rather standard tourism offerings around sun and sand, thrills, and no emphasis on ecotourism or cultural tourism options. The high tourism density proposed by Disney conflicts with their corporate sustainability goals and is a recipe for degradation and overtourism<sup>5</sup> at Lighthouse Point. Without significant modifications, it is likely that the activities outlined in the draft EIA could trigger intense ecological pressure with myriad negative impacts.

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<sup>2</sup> For more information, [www.foe.org/cruise-report-card](http://www.foe.org/cruise-report-card)

<sup>3</sup> Draft EIA for Lighthouse Point, Eleuthera, The Bahamas, pp 254 March 2021

<sup>4</sup> Exhibit A Disney's Global Commitment to The Environment and Conservation: Draft EIA for Lighthouse Point, Eleuthera, The Bahamas, March 2021

<sup>5</sup> **Overtourism** is tourism that has moved beyond the limits of acceptable change in a destination due to overcrowding from visitors, that can overwhelm a destination and its resources, leading to degradation or destruction of a destination's natural and cultural resources.

## Lack of Consideration of Alternative Options

Upon review of the EIA and other documents, CREST noted only brief mention of Disney's consideration of other alternative locations:

"The Developer explored several alternative locations prior to purchasing the Lighthouse Point property. These locations included Egg Island, Eleuthera; Morgan's Bluff, Andros; West End, Grand Bahama; and various parcels within the Berry Islands. These alternative site locations were rejected due to the potential for significant environmental impacts or operational constraints for cruise ships and other factors. The Lighthouse Point property met Developer needs with the least environmental impact, while providing access to deep water. The commitment to an open trestle pier/berth design allows access to deep water and eliminates the need for dredging, which is generally associated with a greater environmental impact."<sup>6</sup>

Lighthouse Point is a fragile, nature-rich location, with proximity to a proposed marine protected area (MPA). However, LHP is now threatened by damaging impacts from mass tourism activities proposed in the EIA. CREST is concerned that DCL has not adequately explained the process, criteria, and overall results of the alternative location analysis. Consideration of alternative plans was an explicit requirement in the final draft of the 2020 EIA Regulations. We believe that Disney should be guided by global **best destination selection and management practices, and reexamine alternative options including a more altered or degraded location, a land-based low impact option, and a no development option**. Best management practices are expected standard practice by an international brand of such high prestige as the Disney Company which, in turn, should guide DCL away from the mass tourism and amusement park approach proposed in the draft EIA.

## EIA Ignores the Impacts of Proposed Tourist Activities

CREST has identified several negative impacts of concern, where in many cases, the draft EIA does not adequately acknowledge or even address them. These include: poor visitor dispersal; noise, water, and air pollution; habitat degradation (land and marine); toxicity to corals from sunscreen; stress on endemic flora and fauna (with several species IUCN rated threatened and endangered); resource overconsumption; high fossil fuel use for energy generation (70%); unknown waste management protocols; and an alarming dependence on waste burning/incineration.<sup>7</sup>

As outlined in the draft EIA, the undeveloped LHP area would be overwhelmed by tourists as cruise visitation explodes from the hundreds to the many hundreds of thousands of visitors per year. With perhaps 20,000 weekly visitors envisioned, the LHP project would have annual cruise visitation numbers

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<sup>6</sup> Draft EIA Lighthouse Point Eleuthera, The Bahamas Executive Summary, March 2021

<sup>7</sup> Proposed annual visitation of between 624,000 and 1,040,000 tourists will generate considerable solid and human waste. The EIA describes a considerable dependence on waste burning/incineration with no mention of the considerable negative environmental consequences, including: burning of fossil fuels to burn trash, air and water pollution, GHG emissions, and the potential environmental and health risk to tourists and local residents on Eleuthera and adjacent islands.

comparable to pre-pandemic levels in Key West, Florida,<sup>8</sup> and Costa Maya, Quintana Roo, Mexico. There is no established carrying capacity baseline for LHP and the draft EIA does not present the full picture of project impacts from design, construction, to proposed site operations (see below) nor the long-term impacts of climate change on the proposed project footprint and GHG contributions. Irreparable land and seascape transformation and overall environmental degradation is a real possibility both within the project footprint as well as in ecologically significant surrounding marine habitat. Disney should commit to the establishment and monitoring of carrying capacities and visitor density and distribution, with longer term planning providing a vision for site sustainability—a sufficient EIA would have considered these essential elements to sustainability and resource protection.

The draft EIA ignores the negative environmental impacts of these tourist excursions on the environment, wildlife, and ecological integrity of LHP and the surrounding marine areas. Potential long-term negative impacts on marine mammals, corals, finfish populations, and overall ecological integrity of the marine environment are dismissed in the EIA with unsubstantiated claims that the project will have no impact on land or marine biodiversity. We particularly take exception to the March 10, 2021 DCL press notice that has the false and misleading headline, “EIA shows “no loss of biodiversity” expected for DCL’s proposed LHP Project.”

On-land impacts of nearly one million visitors per year is dismissed in the EIA as not having a negative effect on the environment or biodiversity. However, CREST anticipates that the extremely high visitor density on such a small and fragile area will result in significant negative impacts from human foot traffic, waste generation, water purification and consumption, energy generation and sunscreen usage toxic to corals. In addition, we are alarmed by watercraft excursion activities proposed in the draft EIA that present considerable risk to the ecology of LHP and surrounding areas.

Personal Watercraft (PWCs): or “Jet Skis” is a proposed “thrill-seeker” activity that one would find in a high density, already degraded marine amusement park area, not a pristine, currently wild corner of the Bahamas. PWCs are a scourge on the environment, as they contaminate the water and air, create serious negative impacts on birds (nesting, feeding, and displacement), and can operate in shallow near-shore marine habitats that results in serious shoreline erosion, turbidity, and sedimentation problems in shallow productive waters like those found at LHP. The EIA estimates that DCL will be at LHP for 3 to 5 days/week year-round, which if operating just 20 PWCs on-site, will translate to between 2,730 gallons and 4,550 gallons of gas and oil spilled in the inshore waters.<sup>9</sup> In this example, these same 20 PWCs would also emit

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<sup>8</sup> As of November 3, 2020, Key West residents passed 3 referenda, approved by 60 percent or more, to limit the number of cruise passengers disembarking to 1,500/day, to limit the capacity of cruise ships calling in port to 1,300 people, and to give priority to ships with the best environmental health and safety records. Based on CREST’s 2019 research in Key West, it is likely that these regulations stemmed from growing citizen remorse around cruise tourism’s overtourism impacts.

<sup>9</sup> It is estimated that a PWC “thrill ride” of 2 hours duration dumps on average 3.5 gallons of oil and gas as part of regular operations. Operating 10 hours/day, this translated to 17.5 gallons of gas/oil dumped as an operations by-product. Compounded over a range of minimum 156 days to maximum 260 days of operations at LHP, this means PWC operations would dump between 2,730 to 4,550 gallons of gas and oil per year.

smog/GHG into the currently clear air of LHP equivalent to the emissions of between 3,120 and 5,200 passenger cars each driven 100,000 miles.<sup>10</sup>

Banana Boat Rides and Fishing Boats: the EIA does not specify the scale of thrill-seeking banana boat rides and fishing excursions for cruise passengers, but these activities will result in considerable negative impacts including: water, noise, and air pollution; potential reef disruption and damage; overfishing (bonefish, groupers, and snappers are all commercially important species in the area) and disruption to off-shore pelagic ecosystems as a result of tuna and other deep-sea trophy fishing.

### **Lack of Specifics on Economic Benefits**

Disney has shown considerable corporate interest in being a leader in sustainability. However, the draft EIA conflicts with this interest and does not consider sustainable tourism or community-based economic development. The EIA lacks any details that explain the economic benefits projections, and there is no way to determine what the actual economic benefits will be for local communities on Eleuthera, one of the most economically depressed areas of the Bahamas. CREST stands ready to work with Disney Cruise Lines to champion responsible tourism development at LHP and throughout the Caribbean leading to a responsible post-COVID recovery. CREST encourages DCL to lead by example and hold itself to a higher standard by providing a more transparent economic analysis and projections.

The draft EIA and other DCL documents state that the LHP project will generate an \$800 million increase in Bahamian GDP and a more than \$355 million increase in Bahamian government revenues over a 25-year period. Unfortunately, the EIA does not make the case for narrowing the wealth gap and improving the wellbeing and economic benefit of local communities. There is a genuine risk of economic leakage with most of the economic benefits received by others outside Eleuthera and The Bahamas. This is a significant problem with the cruise industry in general, and a key goal for a responsible recovery is to ensure fair and equitable economic benefits for local communities. CREST supports the recommendation to release the Oxford Economics Study results and the methodology used to produce these results so that all stakeholders can review the details and determine the validity of the claims of considerable community economic benefits.

Finally, more detailed targets should be cited within the EIA that solidify the role of the local community within port operations. Similar targets that have been established in the construction process (overall ratio of 80 percent Bahamians) should also be created for ongoing employment in port operations, as well as for the other socio-economic commitments that do not currently establish concrete dimensions for success. Disney must also ensure that all port employees and local third-party vendors are subject to fair wages and just bargaining processes.<sup>11</sup> Markers should be established to determine the ratio and

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<sup>10</sup> A single 100 horsepower PWC one day's operation (10 hours) emits the same smog/GHG as driving a new passenger car 100,000 miles. 156 days x 20 PWC = 3,120; 260 days x 20 PWC = 5,200.

<sup>11</sup> CREST's 2019 book, *Cruise Tourism in the Caribbean: Selling Sunshine*, revealed that an estimated half of what the cruise passenger spends for excursions and in recommended stores is kept as commissions by the cruise line or

revenues of duty-free shops and international brands to local shops and vendors in port, as to maximize benefits to the local economy and reduce economic leakage.

It is not too late to support an enhanced level of cooperation amongst Disney, Bahamian government agencies, local communities, and NGOs for this project. At CREST, we encourage the redesign of this project that meets the new normal of sustainable tourism, more equitable economic benefits, and genuine destination stewardship. The world is watching, and the Disney Company has the opportunity, and responsibility, to develop a true, sustainable tourism destination model for cruise tourism.

Sincerely,

A handwritten signature in black ink, appearing to read "Gregory Miller", with a long horizontal flourish extending to the right.

Gregory Miller, Ph.D.  
Executive Director  
Center for Responsible Travel

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its agents. Additionally, anecdotal stories collected by CREST in various Caribbean port-of-call showed that third-party operators often entered a “race to the bottom” to be contracted by cruise lines.

EIGHT SIGNIFICANT PROBLEMS WITH THE ENVIRONMENTAL IMPACT  
ASSESSMENT DOCUMENT FOR THE PROPOSED LIGHTHOUSE POINT PROJECT

Dinah Bear, Esquire\*

Thank you and greetings to everyone. I am going to briefly outline 8 major problems with the document characterized as the Environmental Impact Assessment for Disney Cruise Line's proposed Lighthouse Point development.

1. *Purpose of EIA*: This document suggests a fundamental misunderstanding of the purpose of EIA. The purpose is not to document the impacts of a decision that has already been made and suggest a bit of mitigation. Rather, the highest purpose of EIA is to evaluate the environmental and related social and economic impacts of a proposed action and alternatives to that action to inform decisionmaking. As it stands, the document does not conform to international and U.S. standards for EIA.
2. *Alternatives*: Everyone thinks about alternatives when they make personal decisions. And indeed, we are told that Disney considered alternative locations for this proposed project. But this isn't just a private decision – it's a public one that will affect the communities, wildlife and environment of this island for a long time, possibly centuries. The EIA needs to identify both site and project alternatives and analyze their impacts for public review and comment. Alternatives are a required part of EIA in many contexts, including implementation of international agreements to which the Bahamas is a party – The Convention on Biological Diversity and the Ramsar Convention on wetlands. And it's the Bahamian law!
3. *Scope of Analysis*: The preponderance of effects analysis and mitigation measures in this document focus on construction of the project. Those are important effects, but the longest lasting effects may well be from the presence of thousands of people recreating in the area and the necessary support systems, such as transportation, to keep the resort. That analysis is woefully lacking.
4. *Cumulative effects/climate*: To properly analyze such effects, the EIA should identify not only the environmental baseline and the effects of construction and operations of the proposed resort, but also analyze those impacts along with the synergistic effects of other actions occurring now and in the foreseeable future that will affect this part of Eluthera. An overwhelmingly significant aspect of such analysis must be related to climate change, including sea level rise – not just the impacts of the project on climate change, but very importantly here, the effects of climate change on affected resources, such as fish stocks, and on the project itself.
5. *Missing baseline data*: The document reveals some very important gaps in baseline information – for example, do sea turtles nest on these beaches? What are the migration patterns of bonefish and how will they be affected? Are there coral reefs within the project footprint? How will the project likely affect island communities? The document has 3 paragraphs on surrounding communities that explain where the Bahamas and Eluthera are and the size of the human population. This is totally unsatisfactory. The EIA should include analysis of the likely impacts of the project on the culture and social structure of the island, as well as the economic effects.
6. *Secret studies*: Then there is analysis that apparently has been done but that has not been shared with the public. For example, Appendix H presents summary tables and charts of the economic study but not the study itself. Why not? Does the study address only beneficial impacts of the project?

7. *Superficial or no analysis*: The analysis of effects is quite superficial for a number of issues and focuses primarily on positive impacts. For example, for the proposed transformation of the road leading into the project area from a road that currently a road that will have the capacity to service more than 15,000 vehicles a day through dry, broadleaf evergreen forest, the analysis is “greater mobility”; not a word about the effects on the forest.

8. *Mitigation suggestions*: The document promises much in the way of mitigation . . . much of it to be developed sometime in the future . . . and much of it presented as options, to be informed by an Environmental Management Plan (EMP) and adaptive management. But the document fails to provide for an adequate foundation for adaptive management and the purpose of an EMP by failing to provide adequate analysis to set responsible benchmarks. It remains unclear what Disney is actually committing to in the way of mitigation and what the likely effects of the mitigation might be if implemented.

**Conclusion**: This is a very disappointing show by such an iconic American company that has long been identified with spotlighting nature. The Walt Disney Company has said that it would approach this project with the same level of environmental stewardship and sensitivity that it brings to other Disney projects around the world.” I can say with confidence that this document would never be published in the shape that it’s in right now in California, the birthplace of Disneyland and the Disney company.

**RECOMMENDATION**: A revised or supplemental EIA document informed by comments and expert analysis on this draft should be circulated for public review and comment.

\* *Credentials*: Ms. Bear oversaw the implementation of environmental impact assessment procedures in 85 federal agencies in the United States for 25 years, as Deputy General Counsel and General Counsel for the President’s Council on Environmental Quality. Additionally, she headed exchanges on environmental law and environmental impact assessment with Japan and the USSR and was involved in international negotiations regarding environmental impact assessment. She independently reviewed this document at the request of Waterkeepers Bahamas.

#### References:

*United Nations Environmental Programme, Goals and Principles of Environmental Impact Assessment*

*Principles of Environmental Impact Assessment Best Practice*, International Association for Impact Assessment, in cooperation with Institute of Environmental Assessment, UK

*Directive 2011/92/EU of the European Parliament and of the Council on the assessment of the effects of certain public and private projects on the environment, as amended by Directive 2014/52/EU*

*Strengthening Environmental Impact Assessment: Guidelines for Pacific Island Countries and Territories*, Secretariat of the Pacific Regional Environmental Programme, United Nations Environmental Programme

*Environmental Impact Assessment and Strategic Environmental Assessment*, Convention on Wetlands

*Biodiversity-Inclusive Impact Assessment in the Context of the Convention on Biological Diversity and the 2030 Agenda: Ways Forward*, Secretariat of the Convention of the Convention on Biological Diversity

Environmental Impact Assessment Regulations, 2020, Official Gazette, The Bahamas, Reg. 5(2)), 2<sup>nd</sup> Schedule, 9/15/20.

National Environmental Policy Act

Environmental Impact Assessment of Nongovernmental Activities in Antarctica

State of Hawaii environmental impact statement rules



# Global Coral Reef Alliance

A non-profit organization for protection and sustainable management of coral reefs

May 5, 2021

## REVIEW OF DISNEY CRUISE LINES ISLAND DEVELOPMENT EIA FOR LIGHTHOUSE POINT, ELEUTHERA, BAHAMAS

To: The Bahamas Department of Environmental Planning and  
Protection

Via: reEarth

Thomas J. F. Goreau, PhD  
President, Global Coral Reef Alliance

Bahamian coral reefs have never been in worse condition since the first good underwater photos were taken in the Bahamas in 1948 by my grandfather and father.



First underwater closeup photograph, F. W. Goreau, Bahamas, 1948

Lighthouse Point's coral reefs have many unique features, not discussed in the EIA, that require the highest possible protection from land-based sources of pollution, such as those that would be

Global Coral Reef Alliance  
37 Pleasant Street

Cambridge, MA 02139 USA +1.857.285.3745

[info@globalcoral.org](mailto:info@globalcoral.org)  
[www.globalcoral.org](http://www.globalcoral.org)

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**created by proposed activities at the site.**



Oblique Aerial – View Looking North



Oblique Aerial – View Looking Northwest

*Oblique Aerial Photographs  
Lighthouse Point*

**Lighthouse Point has some of the least damaged coral reefs in the Bahamas and pristine salt ponds of global importance as migratory bird habitat (from EIA).**

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37 Pleasant Street

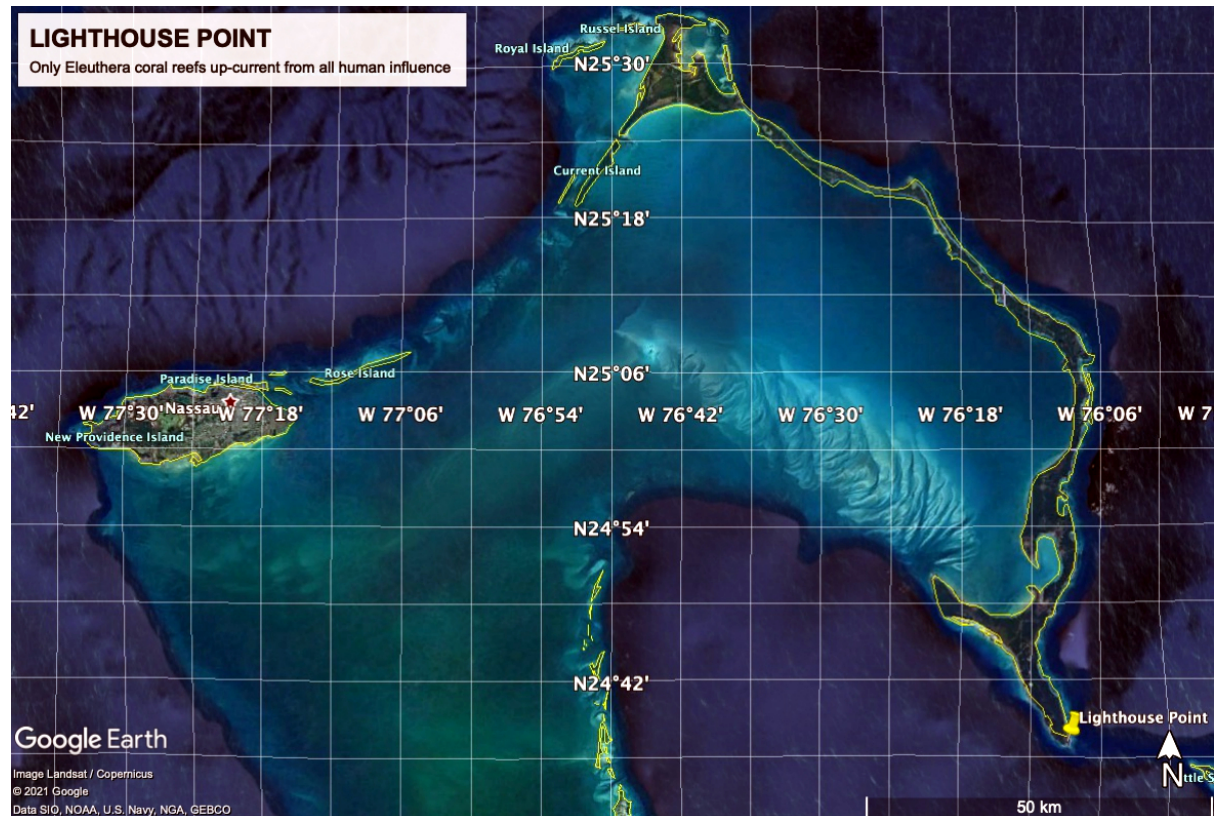
Cambridge, MA 02139 USA +1.857.285.3745

[info@globalcoral.org](mailto:info@globalcoral.org)  
[www.globalcoral.org](http://www.globalcoral.org)

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Due to their location at the extreme southern end of Eleuthera, sticking out into clean ocean waters thousands of meters deep, these are the only coral reefs in Eleuthera that are entirely up-current from sources of land-based pollution, and therefore of the highest national conservation importance.



Lighthouse Point sticks out into clean deep Atlantic water, and is up-current from all human influence because currents and waves approach mainly from the southeast.

The EIA describes the health of Lighthouse Point coral reefs as “fair”, because live coral cover was about 1-10%, but the survey omitted all the areas of highest coral cover in deeper water on the east side of Lighthouse Point. Because of their exceptional water quality and lack of human disturbance, these reefs are likely among the most pristine reefs left in the Bahamas. Coral reef organisms may go to record depths there because of the clear water.

Lighthouse Point is certainly the major grouper spawning site in Eleuthera because it has all the features groupers look for: a promontory sticking out into deep water, exposed to waves, with currents flowing up both sides, allowing baby groupers to spread

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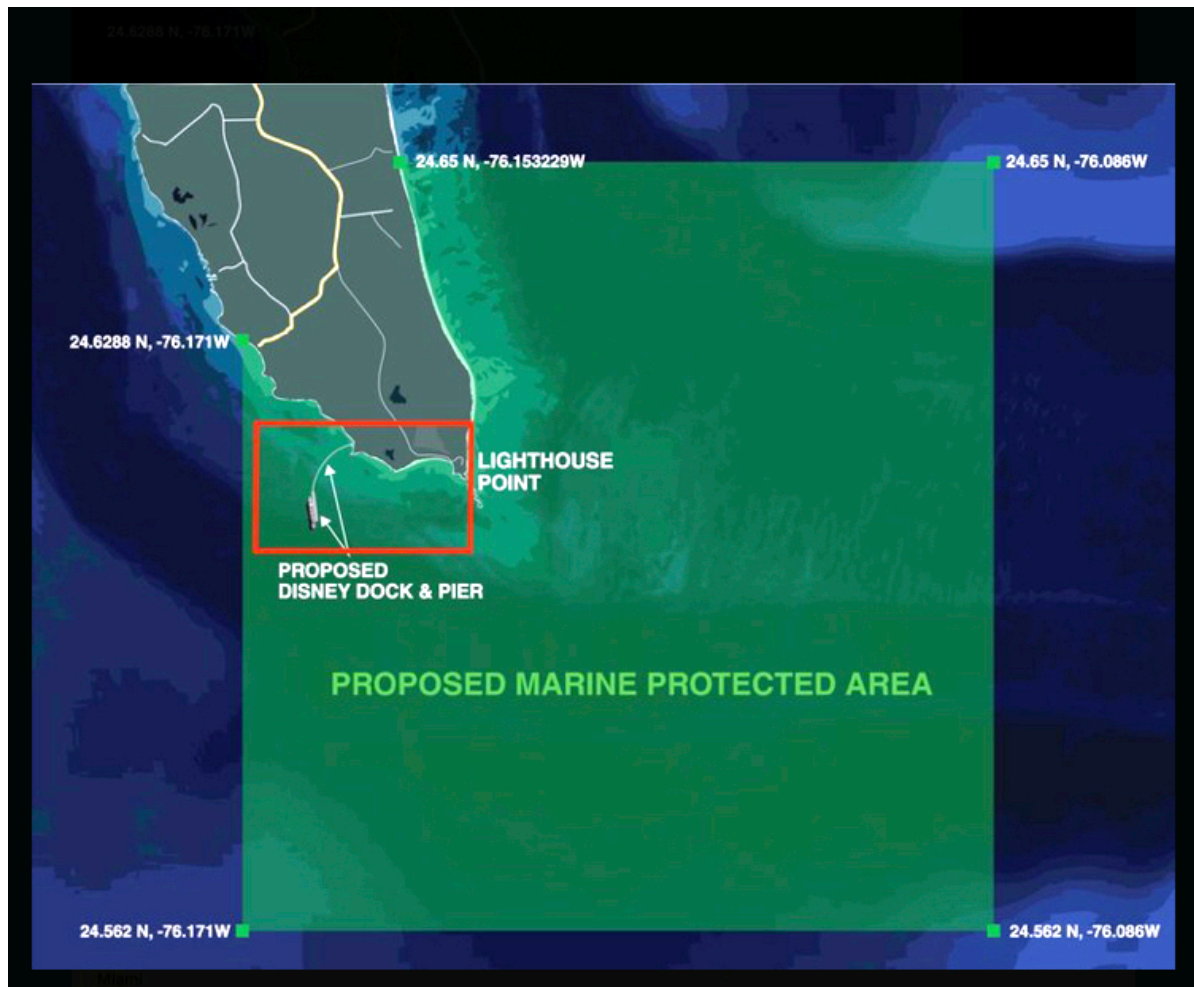
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info@globalcoral.org  
www.globalcoral.org

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up both coasts. Whales and dolphins also pass by the Point. It is therefore of critical fisheries importance, although not identified as such in the national environmental protection plan. Lighthouse Point was designated for Protected Area status in the national Environmental Marine Protection Plan, but this recommendation has not been established or enforced.



Lighthouse Point was designated a Proposed Marine Protected Area in the 2018 Bahamas Environmental Marine Protection Plan, for establishment by 2020. It has not yet been established or enforced.

Because Lighthouse Point sticks out into the wind and waves, it is strongly exposed on both sides to hurricane waves there is only a narrow sand beach. Shore and offshore areas have hard limestone bottom with a thin shifting sand layer. During hurricanes some sand is thrown up on land, forming dunes, but most is washed out to deep water and lost. For this reason, there is not enough beach

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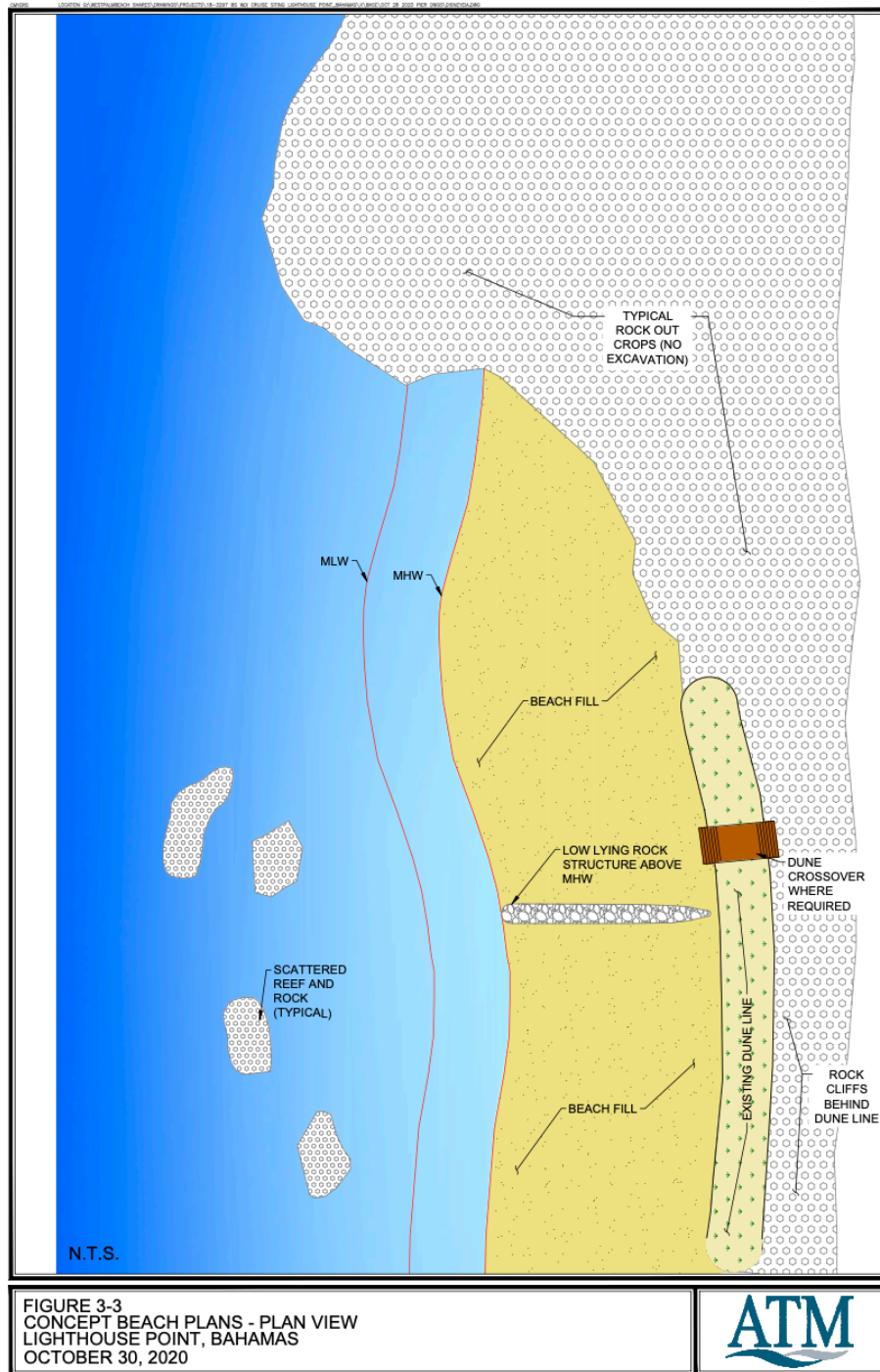
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**sand there to accommodate the number of tourists planned by the developers!**

**Their solution is to import sand and dump it above the high tide mark to create artificial beaches on both sides of Lighthouse Point. There is not enough sand locally to dredge or pump to the site. They do not say where this sand will be brought from, nor whether it will be transported by barge or truck, and then spread by bulldozers.**

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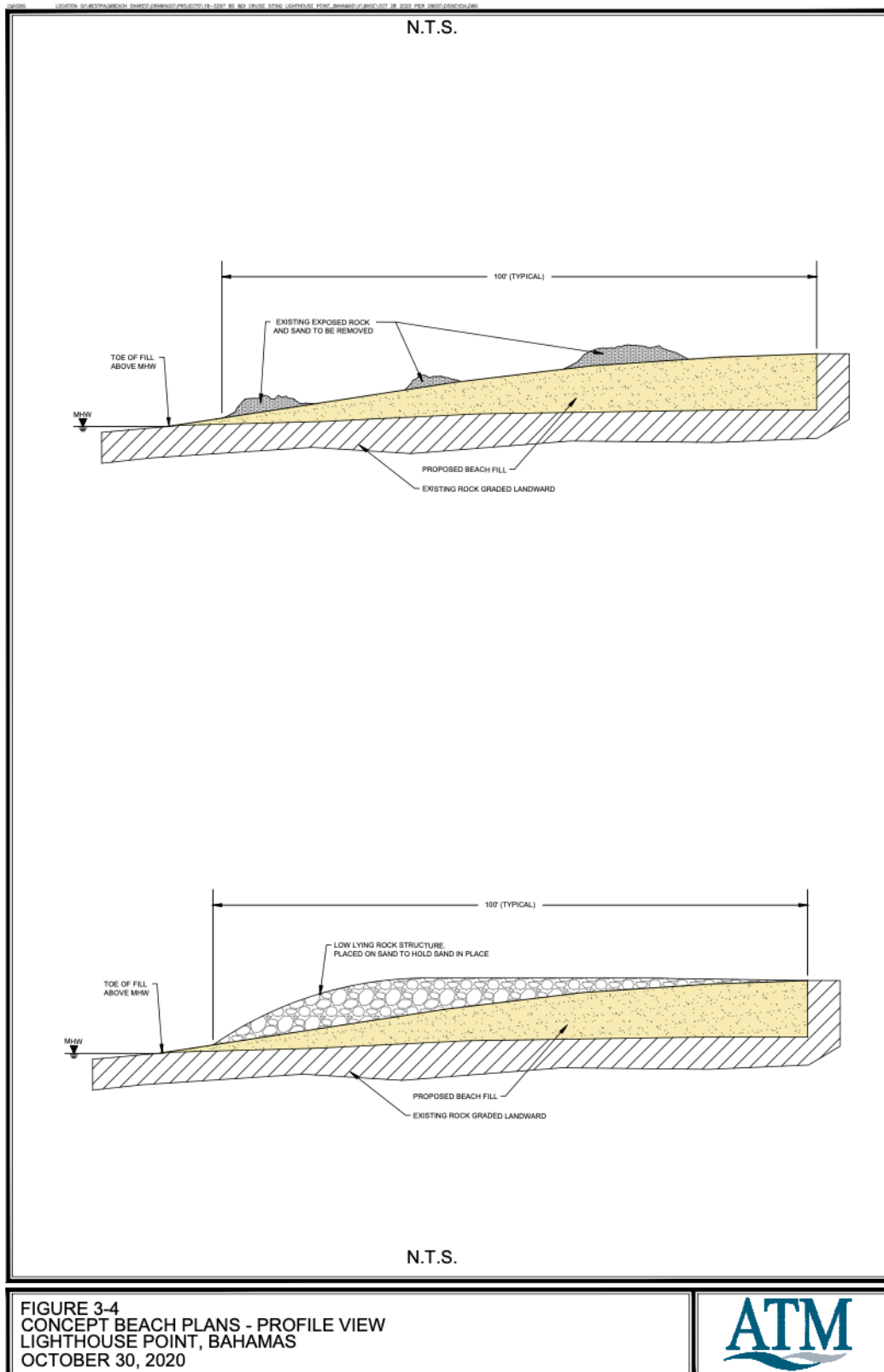
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**Schematic plan for dumping sand above the high tide mark to create artificial beaches on both sides of Lighthouse Point, with stone structures on either side to keep them in place. Overhead view. Note living coral reefs right in front of the artificial beach. From the EIA.**

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**Plan for dumping sand above the high tide mark to create artificial beaches on both sides of Lighthouse Point, with stone structures on either side to keep them in place. Side view. Coral reefs in front**

Global Coral Reef Alliance  
37 Pleasant Street

Cambridge, MA 02139 USA +1.857.285.3745

[info@globalcoral.org](mailto:info@globalcoral.org)  
[www.globalcoral.org](http://www.globalcoral.org)

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of beach are not shown. From the EIA.

A unique feature of Lighthouse Point is the fact that all three of the severely endangered Acropora elkhorn and staghorn coral species are found together in very shallow nearshore waters, right in front of the proposed artificial beaches.



Location of shallow elkhorn and staghorn reef in front of proposed

Global Coral Reef Alliance  
37 Pleasant Street

Cambridge, MA 02139 USA +1.857.285.3745

info@globalcoral.org  
www.globalcoral.org



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artificial beaches (+ symbols). From EIA, with red circles added to show how close they are to sand dumping for artificial beaches.

Elkhorn and staghorn corals used to be the most common corals in all clean shallow Bahamian coral reefs, but have almost vanished, and are very rarely now found together anywhere. These species provide the best shoreline protection from waves and the best fish habitat because they are the fastest growing Caribbean corals. These corals require the cleanest waters and good water movement by waves to survive, and are the first to disappear where waters become muddy from dredging and soil erosion, or polluted with nutrients. These species are especially vulnerable to sand from dredging. Once water quality deterioration kills these species, fisheries collapse and beaches wash away, a process far advanced in the developed islands of the Bahamas and Caribbean. In addition, they are especially vulnerable to coral diseases, and were the first species to be largely killed off by diseases throughout the entire Caribbean. Lighthouse Point is therefore of exceptionally high quality for the most endangered Bahamian reef building coral species, and deserves the strongest protection from any activities that would cause turbidity or nutrient inputs in coastal waters.

Three planned activities are described in the EIA that would greatly damage water quality at this site: 1) nutrient discharge to coastal waters from sewage, 2) turbidity caused by boat docking, and 3) erosion of landfill beaches onto the reef.

1) A proposed waste water treatment plant is described, but almost no details are given. It is not clear if sewage will be treated to tertiary level to remove the nutrients, which if discharged into groundwater or surface waters will cause harmful algae blooms that will overgrow and kill corals and sea grasses, and choke migratory bird habitat with slimy weeds. The description of algae found on the reef make it clear that high nutrient-indicating fleshy algae are absent from the reefs, and the algae present are mostly coralline algae that produce white beach sand. Nutrient inputs will cause “bad” algae that produce no sand to overgrow and kill “good” sand producing algae. This stops new supplies of sand to make up for that which is lost to storms, while weedy algae

Global Coral Reef Alliance  
37 Pleasant Street

Cambridge, MA 02139 USA +1.857.285.3745

[info@globalcoral.org](mailto:info@globalcoral.org)  
[www.globalcoral.org](http://www.globalcoral.org)

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overgrowth smothers the corals that protect the beach from wave erosion, increasing erosion. The EIA suggests that sewage plant effluent waste water will be recycled to irrigate lawns and ornamental plants, but it is impossible to prevent this soaking into the sea and damaging near shore reefs and sea grasses. No geotextile layer to prevent discharge into the sea is mentioned in the Lighthouse Point EIA, and they were found not to work in a major project at Bakers Bay, Abaco, whose developers claimed that all waste water would be recycled by irrigating golf courses that were sealed off below with geotextile to prevent leakage to the aquifer and ocean. Despite these claims, in fact nutrients leaked into the sea at Bakers Bay and caused harmful algae blooms and diseases that killed most of the corals on nearby coral reefs (<https://www.globalcoral.org/golf-courses-kill-coral-reefs-and-fisheries-harmful-algae-blooms-and-disease-caused-by-nutrient-runoff-from-golf-course-development-on-guana-cay-abaco-bahamas/>). I have personally seen reefs all around the Caribbean killed this way for more than 60 years, including New Providence, Grand Bahama, and Abaco, and appeal to Bahamians not to let this happen to one of their Crown Jewel National Marine Treasures, the coral reefs at Lighthouse Point, Eleuthera.



Global Coral Reef Alliance  
37 Pleasant Street

Cambridge, MA 02139 USA +1.857.285.3745

info@globalcoral.org  
www.globalcoral.org

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**Coral reefs killed by golf course fertilizers and sewage at Bakers Bay, Abaco. The same is true in New Providence and Grand Bahama.**

**2) Disney Cruises use an innovative design that causes no dredging for cruise ship pier installation, because dredging has caused terrible damage to reefs at cruise ship destinations all across the Caribbean. However, the strong directional jets created during ship movements while docking and leaving port stir up sediment and leave clouds of fine-grained sediment to drift over coral reefs down-current. I advised the Turks and Caicos Island Government Department of Environment and Coastal Resources (DECR) national coral reef health assessment. We found corals on reefs kilometers down-current from the cruise ship pier on Grand Turk being killed by sediments suspended by propeller wash from cruise ships docking and leaving. Before the pier went in, that reef was the last good shallow snorkeling coral reef we could find in TCI with corals in healthy condition. DECR was forced to rescue and transplant thousands of corals that were being killed by sedimentation caused by cruise ships, and move them onto artificial reefs in clear water up-current from the pier. I have seen the same effects in Cozumel and other cruise ports around the Caribbean. Bahamian corals have had large scale mortality from repeated high temperature bleaching events, and are on the edge of survival from global warming. Warm water, heated by the engines from the directional jets on the cruise liners, will add additional stress to corals down-current. These engines must be on all the time while the cruise ship is at dock in case the wind suddenly shifts, as long familiar to Bahamian sailors! The EIA says thermal impacts will be small if there are good currents, but they could make the difference between life and death for corals under calm conditions. Impacts will be inevitable to reefs down-current from the dock to the north west of Lighthouse Point despite EIA claims there will be no effect.**

**3) A major threat to the offshore reefs is being buried when the artificial beach created by sand dumping on the shore is washed into the sea by storm waves. Global sea level rise and increasing storm strength caused by global warming make this inevitable. These beaches are naturally narrow because of strong windward**

Global Coral Reef Alliance  
37 Pleasant Street

Cambridge, MA 02139 USA +1.857.285.3745

[info@globalcoral.org](mailto:info@globalcoral.org)  
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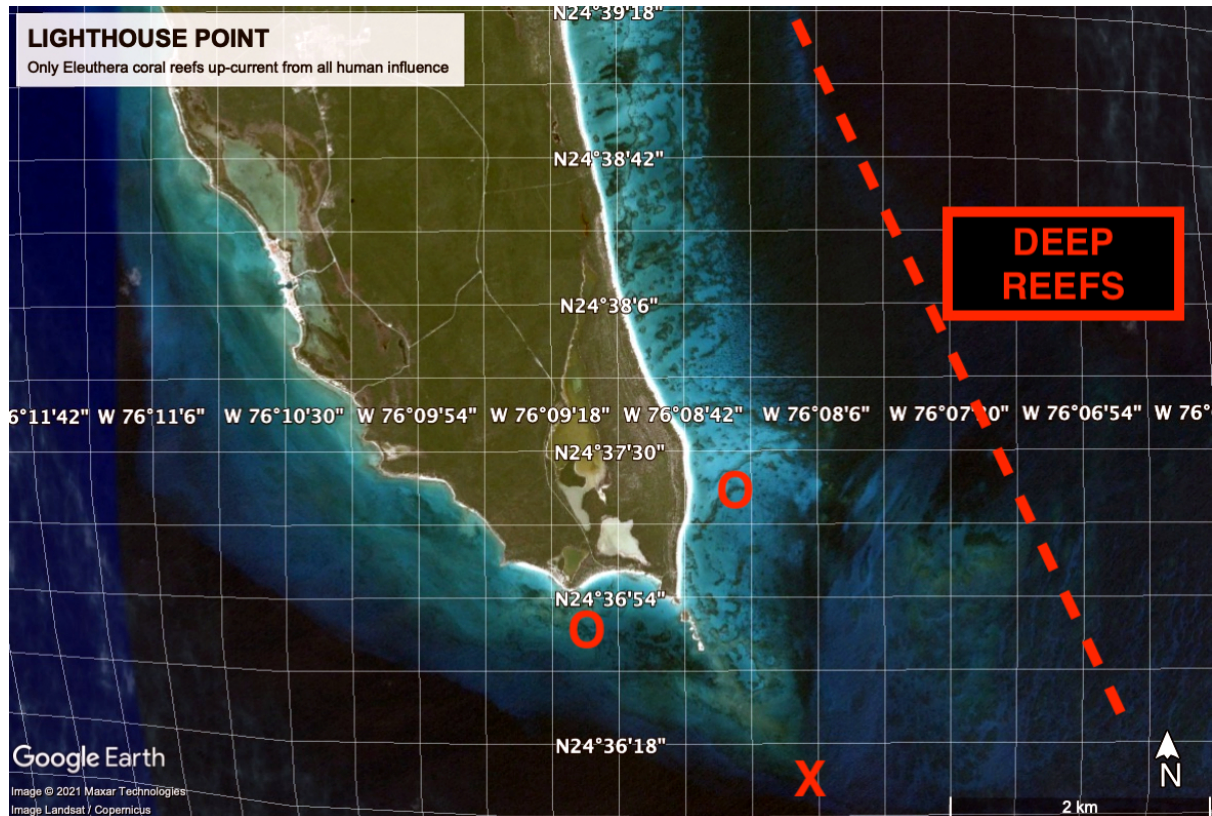
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exposure orientated into the waves, the narrow shelf, hard flat limestone bottom, and fact that most of corals are in deep water at the edge of the drop off. A large amount of sand is produced by coralline algae, but most is washed away into deep water, so the area is generally starved of sand, with only a very thin veneer of mobile sand over hard limestone rock. Sand placed above the high tide mark will be unstable in the long run. Some will be washed onto the sand dunes by storm waves and wind, but eventually most will be washed into the sea and lost over the edge of the drop off into deep water. Corals between the shore and the reef edge will be buried and killed by eroded beach sand. Erosion of beach dredge-fill sand dumped on South Florida beaches (called “beach renourishment”), killed all the inshore coral reefs that once lined the coast of Southeast Florida. If the goal is to keep the emplaced sand on the beach for cruise ship passengers, they will need to grow coral reefs to protect them from erosion, or make artificial ones. In South Florida all of the coral reefs that used to lie offshore and provided and protected the sand that built the natural beaches were smothered and killed when beaches were widened by sand dumping. Sand was washed offshore by the first storms. Since Florida lost both sand source and protection, they ever since have needed to dump more and more sand. The sand dumped never lasts out the year, and much is lost to deep water! Now no more dredge-able sand remains in South Florida, and they want to import it from the Bahamas. The same will happen at Lighthouse Point, where the artificial beach could be wiped out in the first hurricane or Norther, and kill all the shallow elkhorn and staghorn reefs in front of them, as happened to Florida in the 1970s.

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Shallow reefs (circles), grouper spawning sites (X), and deep reefs with high coral cover and diversity (dashed line) will be affected.

Quite apart from the fact that the artificial beaches will damage the coral reefs when they are washed away, every cruise ship that enters or leaves the pier will send a cloud of suspended sediment over the corals down-current. The best remaining snorkeling reefs in the Turks and Caicos Islands were smothered kilometers down-current by dredging and cruise ship sediment plumes. This will also happen at Lighthouse Point.

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Corals killed by propeller wash sedimentation more than a kilometer down-current

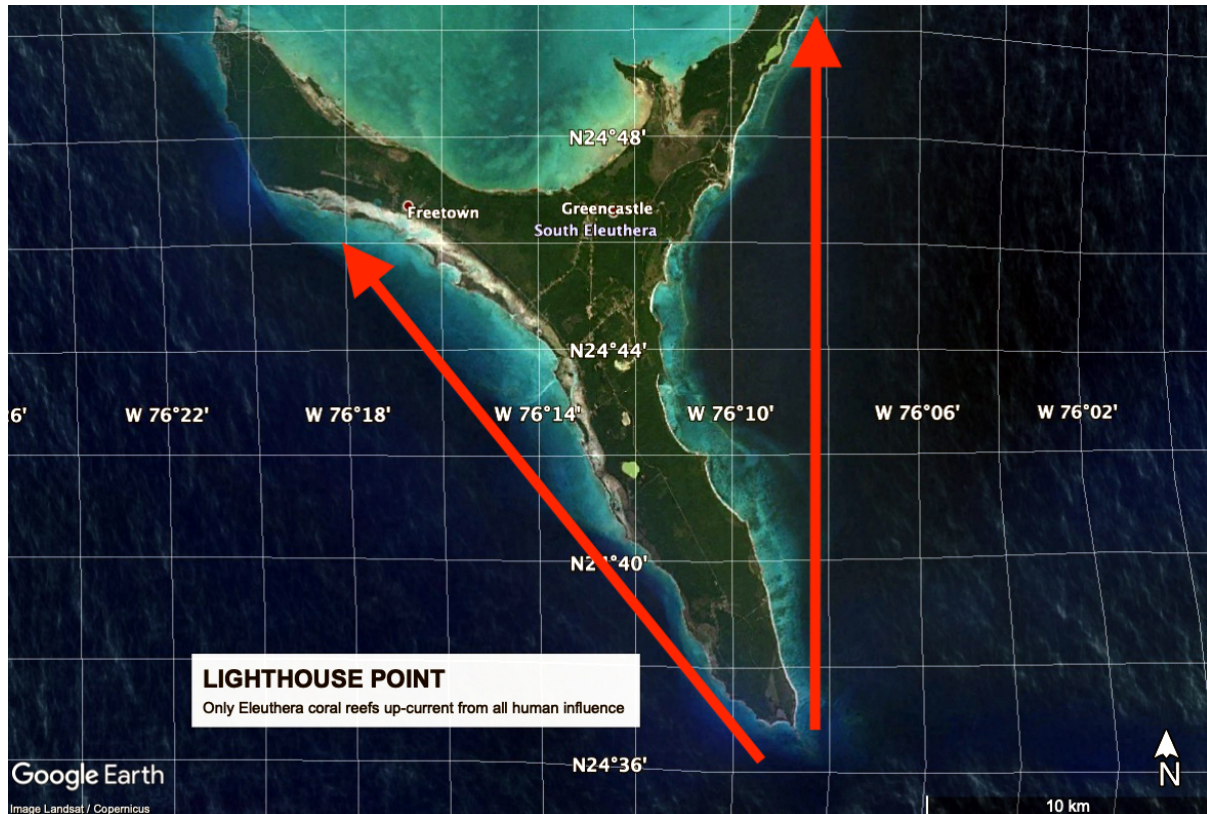
Grand Turk cruise ship pier. Coral reefs kilometers down current were smothered by sedimentation. Every cruise ship that enters and leaves sends a plume of mud onto the reef. The same will happen at Lighthouse Point, but the area affected will be larger than Grand Turk because the site is more exposed to longshore wave driven currents.

I congratulate authors of this EIA for the exceptionally complete job they made describing the site and the species found there, despite incomplete studies due to Covid. Their thorough descriptions allowed offshore ecological conditions of the site to be determined, even though missing from the analysis in the EIA itself, and even though they avoided looking at the best coral reef areas. For example, the EIA says that no reef fish spawning aggregation sites exist in the area that could be impacted, and that the nearest one documented is around 30 miles away, but this is probably because no detailed studies have been made there. Lighthouse Point is certainly a major breeding aggregation site for groupers and other fish, because what they look for is a submarine headland pointing out into deep water, and Lighthouse Point is probably the top grouper spawning site in Eleuthera for both coasts of the island.

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In conclusion this proposed development risks severe ecological damage to unique Bahamian coral reefs and fisheries of national conservation importance through sewage causing harmful algae blooms, turbidity caused by cruise ships, and erosion of artificial beach sand unprotected from storm waves. Both sides of Eleuthera will be affected if Eleuthera's best reefs are damaged by this environmentally irresponsible proposal.



Impacts of this project will damage both sides of Eleuthera.

Please note I have received no money for review and comment on the 551 page EIA. My comments are motivated by what is best for Bahamian coral reefs and fisheries and not by any financial benefit such as received by the highly paid teams that produced this EIA.

Comments submitted by: Dr. Ancilleno Davis, PhD, Owner/Founder of Science and Perspective  
*\*Dr. Davis has been working and collecting scientific data in The Bahamas for 20 years.*

Seeing Sustainability at Lighthouse Point  
 Disney Cruise Lines Lighthouse Point EIA review

Background

Disney Cruise Lines have proposed a development at lighthouse Point in Eleuthera, The Bahamas. The proposed development has evolved significantly over the past few years and seen a major reduction in the acreage to be developed and the amount of natural habitat to be impacted. This development is expected to bring many more guests to the island of Eleuthera than ever before, however, those guests will be prevented from interacting with the people and economies of Eleuthera by significant social, physical, technological and economic boundaries. Each of these barriers will be discussed in this review.

The Lighthouse Point development will impact the environment in and near the development during the construction and set up phases through immediate catastrophic effects such as habitat removal, dredging and species introduction. Long term and cumulative effects on the site will also result from repeated and persistent introductions to the site such as human waste and food waste, insecticides and insect repellents and sunblock.

There are gaps in the methodology used in the implementation of the Disney EIA and several of these gaps should be resolved before implementation of the project.

The site has been purchased by Disney already. The Project site includes Lighthouse point, both the east and west shorelines and Crown Lands that include Big Pond, White Pond and other areas (2.1). The project site is 919 acres and includes 758 acres purchased by Disney

Area	Sub set		
Crown Lands	Big Pond		
	White Pond		
	Other Land Parcels		
Subtotal			161
Disney Purchased property	Donated Public Lands	193	
	Undisturbed	413	



	Development	152	
subtotal			758
Total Project			919?

The site is intended to serve Disney Cruise Lines Company which operates four ships registered in the Bahamas. Those ships are Disney Dream (4,000 pax), Disney Fantasy (4,000 pax), Disney Magic (2,700 pax), Disney Wonder (2,700 pax). The passengers include 1458 crew for Disney Dream and Fantasy and 945 crew for Disney Magic and Wonder.

### Social

The Cultural landscape of the Bahamas and Eleuthera is vulnerable to disturbance and the people are subject to victimization as are people throughout the Caribbean.

Specific attention must be paid to the effect on local communities and economies, and the representation of local people.

Restricted Access: Most of the debate surrounding Lighthouse point regards restricted access to the location for Bahamians, residents and non-Disney visitors. The EIA highlights positive benefits including job generation and pay scales for bahamians.

1. Clarity is needed on what types of jobs will be available to Bahamians. Will there be positions at multiple levels of the organization for Bahamians or will Bahamians be restricted to lower levels of the organization/menial labor positions such as cleaning, cooking, security or landscaping?
2. The passenger numbers reported do not seem to include the crew. Crew members also produce waste and impact the environment and represent income for immigration and potentially competition for local service providers, tour guides etc. Weekly passengers 11,400 to 26,600 is this accurate? Disambiguate passengers, clients, crew, or people total.
3. How much time to conversion of all on island staff to Bahamians?
4. When the cruise ship is not in, there are only 2 people at Princess Cay. what about the other staff/employees? When in port how much of the on island work will be conducted by ship staff that come and work?

### Economic

The Economic history and current climate of the Bahamas make the island of Eleuthera and the Bahamas on the whole vulnerable to exploitation from developers who have the money to encourage the country to accept unsustainable or unbalanced business offerings.

1. Will these jobs be salaried monthly pay positions that are climate proof in the event of storms, or are they hourly wage jobs which will leave the employees vulnerable when storms or other events stop ship sailings?
2. Non-commercial access to the site means no Bahamian can engage in financial gain on the site unless employed by Disney. Does this include all the donated lands?
3. Can crown land in the area be sold and or restricted as such to a non bahamian entity?
4. Does non-commercial access also mean that Disney will not have any forced costs for participation (security, parking, food vending, admission) for Bahamians and our guests?
5. At Princess cays there is a notorious fence that locals are not allowed to cross when the cruise ships are not present and then, only those Bahamians with a special permit can cross into the property. Will Disney institute similar infrastructure?
6. When ships are out of port, will staff be earning money?
7. How do the weekly wages relate to guests per employee ratios?
8. How does this compare to local restaurants, hotels or other cruise ships?

20,000 guests per week for 52 weeks per year = 1,040,000 guests a year.  
 800,000,000 dollars over 25 years = approximately 32,000,000 yearly  
 less than 32 dollars per guest for Disney lighthouse point guest.

if the employees get 600 per week and there are 150 of them in construction and operational phases, that comes to 90,000 per week or 4,680,000 per year. so in wages, Bahamians get \$4.50 per guest on their island.

## Environmental

The natural environment of the area is sensitive to disturbance and has a history of exploitation for economic gain. Resident and migrant bird species, fish, coral and other marine species use the area and are documented in various scientific and anecdotal reports.

The site has been purchased by Disney already. It includes Lighthouse point, both the east and west shorelines and Crown Lands that include Big Pond, White Pond and other areas.

1. The EIA disregards the cumulative impacts of adding the Disney cruise ships to the Carnival and Princess Cruise lines visitors that already use the area. These cumulative impacts will be much more severe than Disney describes and there is no carrying capacity of the environment discussed. Combined with the lack of waste management and waste export protocols, burning on the island and deep injection disposal of waste will affect the environment.
2. No Brazilian Pepper was mentioned in the area.

3. The Protected trees order is much larger now and the botanical survey should be updated to reflect that and the species there.
4. Though not specifically protected, endemic species have restricted distribution in the Bahamas and the region. There are other species as well that are of local and regional importance but are not necessarily listed in international treaties or local law. Our native and endemic species are more locally important for sustainable place based tourism. The surveys took place outside of their breeding season and were therefore biased toward winter migrant species.
5. The passenger numbers reported do not seem to include the crew. Crew members also produce waste and impact the environment. They also represent income for immigration and potentially competition for local service providers, tour guides etc. weekly passengers 11,400 to 26,600 is this accurate? Disambiguate passengers, clients, crew, or people total.

#### Mischaracterization of Habitat

A Key element of the EIA is the characterization/classification of the habitat. In particular, Marine habitat includes areas characterized as “barren sands” in the Disney EIA. I have never seen barren sands in the Bahamas and open sandy areas include species such as flounder, bonefish, sharks, skates, rays. Sandy areas also serve as foraging sites for species such as dolphins who capture fish like rosy razorfish and eels. The sporadic nature and short duration of the surveys combined with the survey bias misrepresent the value and sensitivity of marine habitats. Biases are introduced when sandy areas are disregarded as barren or when surveys focus on coral based methodologies such as AGRRA.

Discussions of Marine environment issues (4-89) included The Cape Eleuthera Institute, the Perry Institute for Marine Sciences and the Bahamas National Trust. These organizations all have considerable experience and investment in our marine resources. Additional consultations with the Bahamas Reef Environment Educational Foundation and the Bahamas Fisheries Association may have generated different results or improved the understanding of the resource.

1. The EIA states that bonefish do not use the area based on personal Communication with one fisherman, and reference research that describes nurse shark mating areas and grouper spawning aggregations as being outside of the area of impact. Research bias limits the research of other groups to the area within their reach.